



Elliott

DRAWING MATERIALS

SURVEYORS

SUPPLIES



B. K. ELLIOTT COMPANY

PITTSBURGH • CLEVELAND

DETROIT



12⁰⁰
JHB



CATALOGUE AND PRICE LIST

SEVENTH EDITION

of

B. K. ELLIOTT CO.

Manufacturers and

Importers

of

DRAWING MATERIALS

and

SURVEYING INSTRUMENTS

126 Sixth Street
PITTSBURGH, PA.

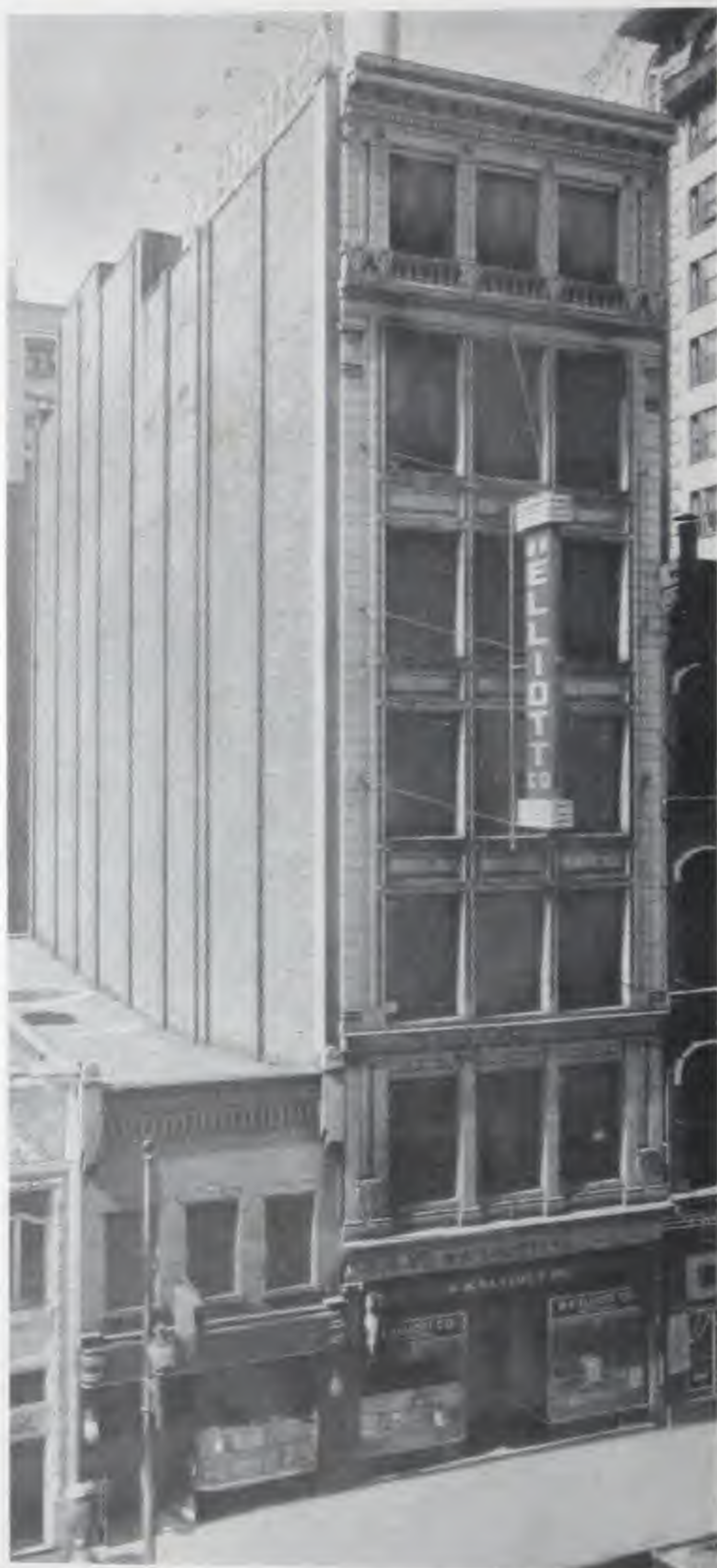
Cable Address, "BLUEPRINT"



CLEVELAND
BRANCH
733 Prospect Ave.

DETROIT
WAREHOUSE
21 Henry St.

Copyright 1948 by the B. K. Elliott Co.
All rights reserved



GENERAL OFFICE, SALES AND SHIPPING DEPT.
 126 Sixth Street, Pittsburgh, Pa.

INSTRUMENT REPAIR
DEPARTMENT



PITTSBURGH, PA.



Foreword

WE present this book to you, our customers and friends, with the hope that it will receive the same kind consideration given to our previous catalogs.

In preparing this catalog great care was exercised in the choice of the products illustrated and described; merchandise of known quality and value only is included.

Forty-eight years of experience in the selection of material in the mathematical field has made it possible for us to offer those materials that are of proven merit.

All materials listed herein are guaranteed by us to be exactly as represented. If the product when it reaches you is defective, of inferior quality, or proves unsatisfactory under reasonable usage and care, the article will be replaced or the purchase price gladly refunded.

Every article is described as completely as possible, and where possible, illustrated. The prices, listed in a separate price list, are effective at the time of issue. All stock orders will be invoiced at the price prevailing at the time they are shipped. A decline is put into effect just as promptly as an advance in price.

You may be interested to know that in addition to the **Mathematical Department**, to which this catalogue is devoted mainly, conveniently arranged so that all **Blue Print Equipment and Supplies, Tracing Cloths and Papers, Drawing Instruments, Drafting Room Furniture, General Supplies, and Surveying and Engineering Instruments** are grouped separately, other departments offer you their services, namely: the **Blue Print Department** in which we have the most modern equipment available to turn out the highest quality **Blue Prints and Brown Prints; Lin-O Direct Line Prints; the Blue and Brown Print Paper and Cloth Coating Department; the Photocopy Department; the Photo-Litho Department; an Instrument Repair Factory** for quick, accurate and economical repairing of transits and levels; an **Artists' Materials Department; a Photographic Supply Department** for amateurs and professionals; an **Optical Department** which offers you accurate grinding of lenses and correct fitting of eyeglasses and spectacles.

We hope you will have many occasions to refer to this catalog.

B. K. ELLIOTT COMPANY

THE BASIS ON WHICH MATERIALS IN THIS CATALOG ARE SUPPLIED

Accounts—We welcome responsible parties to open an account with us, but require satisfactory commercial reference before doing so. Delays in shipments will occur in case initial order is not accompanied by satisfactory reference. No discourtesy is meant by this policy, but we take this measure of precaution, just as you would, under similar circumstances.

Remittances—Remittances should be made by Bank Draft, payable to our order, or by Post Office or Express Money Order. If cash is forwarded by mail the letter should be registered. In case goods are ordered C. O. D. a remittance sufficient to cover transportation charges both ways should be enclosed. Remittance in full covering order is not only less expensive and more satisfactory but expedites a shipment.

Prices—List prices are shown in a separate price list and are effective at the time of issue. All stock orders will be invoiced at the price prevailing at the time they are shipped. A decline is put into effect just as promptly as an advance.

Guarantees—We guarantee our goods to be exactly as represented, and any article may be returned to us within 30 days from date of shipment if found unsatisfactory, and will be promptly replaced or money refunded.

Orders cannot be too explicit. To avoid delay and lessen the possibility of errors in filling orders, please observe the following directions:

Description—Specify item number, name of article, length, width, size, pounds, and any other essential, descriptive information.

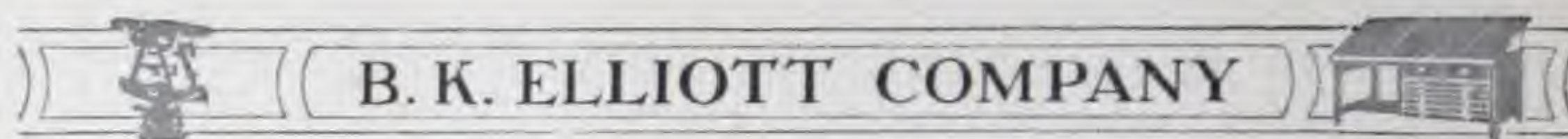
Shipping Instructions—Always state whether you desire the goods shipped by parcel post, express or freight. If by freight, state route preferred. Shipments weighing seventy pounds or less may be sent by parcel post more advantageously and in most instances more cheaply than by freight.

Parcel Post—Parcel post packages will be forwarded insured. The postage and the small insurance premium are **ADDED TO THE INVOICE**.

Express—If desired, express shipments will be forwarded prepaid, and charges **ADDED TO THE INVOICE**.

Freight—When no shipping directions are specified, goods will be forwarded according to our best judgment.

While we use the greatest care in making shipments, we are not responsible for goods damaged or lost in transit, and our responsibility ends when delivered to the carrier. In case of damaged or lost shipments, claim should be made to the carrier. We endeavor, however, to assist the purchaser every way in our power, in such instances.



DRAWING PAPER IN SHEETS AND ROLLS

WHATMAN'S DRAWING PAPERS

Explanation of Surfaces—C. P., "Cold Pressed," or ordinary surface; having a slight grain. H. P., "Hot Pressed," or smooth surface. R., "Rough," or very coarse surface; of large and open grain.

PER SHEET PER QUIRE

- 70061 Imperial, 22 x 30 inches, C.P., H.P.,
and R. 73 lbs. to ream.
- 70062 Imperial, 22 x 30 inches, C.P., H.P.,
and R. 90 lbs. to ream.
- 70063 Imperial, 22 x 30 inches, C.P., H.P.,
and R. 140 lbs. to ream.
- 70064 Double Elephant, 26 x 40 inches, C.P., H.P.,
and R. 133 lbs. to ream.

SUPERFINE DRAWING PAPER

Sheets 22 x 30 inches

A pure white paper with medium smooth tooth for pencil and pen drawing.

- 70065 Superfine Drawing Paper. 24 Sheets

IMPERIAL WATERCOLOR PAPER

Sheets 22 x 30 inches

An exceptionally heavy, rough white paper, of high rag content, with pleasing surface that will help you put that certain softness into your watercolor work.

- 70066 PER SHEET PER DOZEN PER QUIRE

WATERCOLOR PAPERS

In Rolls 59 inches

A Superior grade white watercolor paper for large wash drawings and architectural renderings.

PER YARD 10-YARD ROLL

- 70067 Rough Surface.

WATERCOLOR BLOCKS

A hand made white rough paper of high rag content, 140 lbs. substance. In solid block form with fold back cover. 20 sheets bound on four sides. Sheets are readily separated by running a knife through bound edges.

- | | | | | |
|-------|----------------------|---------|---------|---------|
| 70068 | Block Size in inches | 7 x 10 | 9 x 12 | 10 x 14 |
| | Price | 11 x 15 | 12 x 16 | 12 x 18 |
| | | 14 x 20 | 19 x 24 | |

STRATHMORE CHARCOAL PAPER

Strathmore papers are noted for their fine charcoal surface, texture and beautiful tints.

- 70069 Size—White, 19 x 25 inches.
Price per sheet 250 sheets 500 sheets

Sample book will be sent on request

See Price List Inside Back Cover

ILLUSTRATION BOARDS

STRATHMORE ILLUSTRATION BOARDS

These super quality boards are made in two surfaces—rough and regular surface. In ordering state surface desired.

	SIZE *	PKG.	WGT.	FINISH	BROKEN PKG. EACH	FULL PKG. PER 100
700701	20 x 30	10	Heavy	Regular		
700702	30 x 40	10	Heavy	Regular		
700703	22 x 30	25	Light	Regular		
700704	20 x 30	10	Heavy	High Finish		
700705	30 x 40	10	Heavy	High Finish		

LUXOR ILLUSTRATION BOARDS

REG. U. S. PAT. OFF.

These boards have been subjected to a very exhaustive test. Not only for pen and ink work but also for water color, wash, and pencil drawing, and in every instance the result has been most satisfactory.

	SIZE, INCHES	WEIGHT	EACH	12 SHEETS	25 SHEETS	50 SHEETS	100 SHEETS
700706	20 x 30	Light					
700707	20 x 30	Heavy					
700708	30 x 40	Light					
700709	30 x 40	Heavy					

WHATMAN'S WATERCOLOR BOARDS

Made with Whatman's Paper

		EACH	DOZEN
700710	22 x 30 inches, C.P., mounted with 72 lb. paper		
700711	22 x 30 inches, R., mounted with 72 lb. paper		
700712	22 x 30 inches, H.P., mounted with 72 lb. paper		

LUXOR

REG. U. S. PAT. OFF.

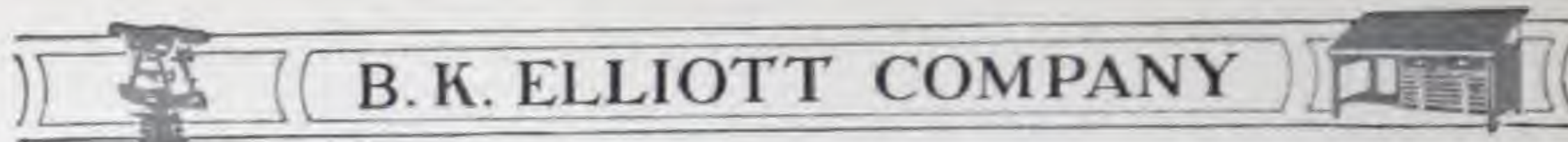
TRACING PAPER PADS

Finest quality, extra strong, clear transparent tracing paper, with good tooth for pencil or ink. In pads of 100 sheets, bound on one end. Cover for protection. Heavy back.

	EACH
700713 Size 9 x 12 inches	
700714 Size 14 x 17 inches	
700715 Size 19 x 24 inches	



See Price List Inside Back Cover



DRAWING PAPERS

SPIRAL SKETCHING PADS

Tablet form, spiral-bound fold-back cover. Good quality white, medium surface drawing paper for water color, ink and pencil.

700801	Size, Inches	5 x 8	9 x 12	10 x 14	14 x 17
	Price, each				

LUXOR VISUALIZING TABLETS

REG. U. S. PAT. OFF.

A fine quality opaque tracing paper for visualizing and sketching in pads of 100 sheets with heavy back.

EACH

700802	Size 9 x 12 inches	
700803	Size 11 x 14 inches	
700804	Size 14 x 17 inches	
700805	Size 19 x 24 inches	

OXFORD BRISTOL BOARD

REG. U. S. PAT. OFF.

Sheets 22 x 30 inches

A very good grade of bristol board for pen and ink and all commercial art work.

		12	25	50	100
		EACH	SHEETS	SHEETS	SHEETS
700806	Plate Finish, 2 ply. Price				
700807	Vellum Finish, 2 ply. Price				
700808	Plate Finish, 3 ply. Price				
700809	Vellum Finish, 3 ply. Price				

STRATHMORE DRAWING BOARD

Sheets 23 x 29 inches

		BROKEN PKG. PER SHEET	STANDARD PACKAGE	PER PKG.
700810	Medium Finish, 1 Ply		100 Sheets	
700811	Medium Finish, 2 Ply		50 Sheets	
700812	Medium Finish, 3 Ply		50 Sheets	
700813	High Finish, 1 Ply		100 Sheets	
700814	High Finish, 2 Ply		50 Sheets	
700815	High Finish, 3 Ply		50 Sheets	

STRATHMORE PATENT OFFICE BRISTOL BOARD

	SIZE, INCHES	SHEET	PER DOZEN	PER GROSS
700816	Strathmore, 2 ply, plain	10 x 15		
700817	Strathmore, 3 ply, plain	10 x 15		
700818	Strathmore, 2 ply, ruled	10 x 15		
700819	Strathmore, 3 ply, ruled	10 x 15		

"Reynolds" Patent Office Bristol Board

		PER SHEET	PER DOZEN
700820	10 x 15, plain		
700821	10 x 15, ruled		

See Price List Inside Back Cover

A
FEW

ELLIOTT PAPERS





qu
700

700

70

70

70

DRAWING PAPERS



Orchid Detail Paper is a buff manila Detail Paper, possessing splendid erasing qualities and has good strength.

70091 Orchid Thin

PER LB.

Original rolls, about 140 lbs.

100 Yds. 50 Yds. 20 Yds.

30 inches wide.
36 inches wide.
42 inches wide.
48 inches wide.

70092 Orchid Medium

PER LB.

Original rolls, about 140 lbs.

100 Yds. 50 Yds. 20 Yds.

30 inches wide.
36 inches wide.
42 inches wide.
48 inches wide.

70093 Orchid Heavy

PER LB.

Original rolls, about 140 lbs.

100 Yds. 50 Yds. 20 Yds.

30 inches wide.
36 inches wide.
42 inches wide.
48 inches wide.

70094 Shamrock Green Detail Drawing Paper

This paper has unexcelled erasing qualities and is pleasing to the eyes. PER LB.

Original rolls, 35 to 50 lbs.

50 Yds. 10 Yds. PER YARD

30 inches wide.
36 inches wide.
42 inches wide.

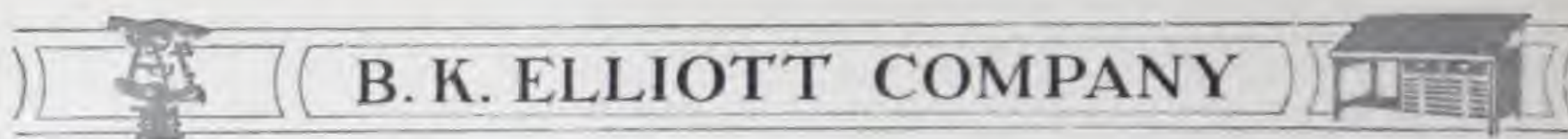
70095 Shamrock Green Detail Drawing Paper in Sheets

PER QUIRE PER REAM

22 x 30 inches.
24 x 36 inches.
27 x 40 inches.

Sample book will be sent on application

See Price List Inside Back Cover



DRAWING PAPERS

70101 "Victory" Detail Drawing Paper

REG. U. S. PAT. OFF.

An excellent medium priced buff paper for Schools, Colleges, Universities and Drafting Rooms.

PER LB.

Original rolls, 30 to 100 lbs.....

50 Yds. 10 Yds. PER YARD

30 inches wide.....

36 inches wide.....

42 inches wide.....

48 inches wide.....

70102 "Victory" Detail, in sheets

REG. U. S. PAT. OFF.

PER QUIRE PER REAM

15 x 22 inches.....

18 x 24 inches.....

22 x 30 inches.....

24 x 36 inches.....

27 x 40 inches.....

70103 "Alton" Detail Drawing Paper

TRADE MARK

This rag content Buff paper will take ink and has unexcelled erasing qualities for a medium priced paper.

PER LB.

Original rolls, 30 to 40 lbs.....

50 Yds. 10 Yds. PER YARD

30 inches wide.....

36 inches wide.....

42 inches wide.....

48 inches wide.....

70104 "Alton" Detail Drawing Paper, in sheets

TRADE MARK

PER QUIRE PER REAM

11 x 15 inches.....

15 x 22 inches.....

22 x 30 inches.....

24 x 36 inches.....

27 x 40 inches.....

70105 3X Pattern Paper

Excellent for covering drawing boards—heavy weight, hard finish—gives a good, smooth working surface. Can also be used for stencils and patterns.

PER LB.

Original rolls approximately 140 lbs.....

50 Yds. 10 Yds.

36 inches wide.....

40 inches wide.....

48 inches wide.....

70106 "Kleenezy" Green Cover Paper

A Plastic coated, waterproof paper that will not soil or smudge. It is heavy enough to lie flat, yet flexible enough to bend without breaking. Its hard smooth surface will not score and drafting tape will not mar the surface. An aid to making clean cut tracings. The green color helps eliminate eye fatigue. Excellent for covering drawing boards.

50 Yds. 10 Yds.

36 inches wide.....

42 inches wide.....

Sample book will be sent on application

See Price List Inside Back Cover

DRAWING PAPERS



70113



70121

(Reduced facsimiles of our labels)

This is a good white paper at a low price, especially adapted for use in colleges and technical schools.

70111 "Ohio" Drawing Paper

PER LB.

Original rolls, 30 to 40 lbs.

50 YDS. 10 YDS. PER YD.

30 inches wide.
36 inches wide.
42 inches wide.

70112 "Ohio" Drawing Paper, in sheets

PER REAM PER QUIRE

11 x 15 inches.
15 x 22 inches.
18 x 24 inches.
22 x 30 inches.
24 x 36 inches.

70113 "Avonmore" Drawing Paper (Heavy Weight)

This paper is white and has a fine grained surface, and is well suited for fine mechanical drawings. It is of domestic manufacture.

PER LB.

Original rolls, 30 to 40 lbs.

50 YDS. 10 YDS. PER YD.

30 inches wide.
36 inches wide.
42 inches wide.
48 inches wide.

70114 "Avonmore" Drawing Paper, in sheets

PER QUIRE PER REAM

22 x 30 inches.
24 x 36 inches.
27 x 40 inches.

Sample book will be sent on application

See Price List Inside Back Cover



“LENOX” WHITE DRAWING PAPERS

REG. U. S. PAT. OFF.

These papers are manufactured from the best 100% rag stock and we consider them the finest continuous roll drawing papers made. They will retain their pliability indefinitely and their erasing qualities are unsurpassed.

The smooth surface papers are suitable for pen and ink drawings, sketches, or work to be photographed and when mounted on muslin are in demand for use in making permanent mine maps.

70121 “Lenox” Smooth Medium

PER LB.

Original rolls, 30 to 40 pounds

10 YDS. PER YD.

36 inches wide

42 inches wide

58 inches wide

72 inches wide

70122 “Lenox” Smooth Thick

PER LB.

Original rolls, 30 to 40 pounds

10 YDS. PER YD.

36 inches wide

42 inches wide

58 inches wide

72 inches wide

MOUNTED ON MUSLIN

70123 “Lenox” Smooth Medium, Mounted

10 YDS. PER YD.

36 inches wide

42 inches wide

58 inches wide

70124 “Lenox” Smooth Thick, Mounted

10 YDS. PER YD.

36 inches wide

42 inches wide

58 inches wide

72 inches wide

Price will be quoted on application for sheets of above papers of any size, mounted on muslin.

Sample book will be sent on application

See Price List Inside Back Cover

TRACING CLOTHS



"ELLCO" TRACING CLOTH

REG. U. S. PAT. OFF.

70131 "Ellco" Tracing Cloth, one side glazed, the other side dull.

PER ROLL

30 inches wide, 20-yard rolls
 36 inches wide, 20-yard rolls
 42 inches wide, 20-yard rolls



"IMPERIAL" TRACING CLOTH

70132 "Imperial" Tracing Cloth, one side glazed, the other side dull.

PER ROLL

24 inches wide, 20-yard rolls
 30 inches wide, 20-yard rolls
 36 inches wide, 20-yard rolls
 38 inches wide, 20-yard rolls
 41 inches wide, 20-yard rolls
 48 inches wide, 20-yard rolls
 54 inches wide, 20-yard rolls

"ARKWRIGHT" TRACING CLOTH

70133 "Arkwright" Tracing Cloth, one side glazed, the other side dull.

PER ROLL

24 inches wide, 20-yard rolls
 30 inches wide, 20-yard rolls
 36 inches wide, 20-yard rolls
 42 inches wide, 20-yard rolls

"PRUDENCE" TRACING CLOTH

70134 "Prudence" Tracing Cloth, one side glazed, other side dull.

PER ROLL

30 inches wide, 20-yard rolls
 36 inches wide, 20-yard rolls
 42 inches wide, 20-yard rolls

See Price List Inside Back Cover

PENCIL TRACING CLOTHS



"ELLCO" PENCIL TRACING CLOTH

REG. U.S. PAT. OFF.

- 70141 **"Ellco" Pencil Cloth (White)**, pencil lines erase without leaving traces—takes ink very well, transparent PER ROLL

30 inches wide, 20-yard rolls.....

36 inches wide, 20-yard rolls.....

42 inches wide, 20-yard rolls.....

"ARKWRIGHT" PENCIL TRACING CLOTH

- 70142 **"Arkwright" Pencil Cloth (Bluetint)**, one side dull, other side smooth (not glazed) PER ROLL

24 inches wide, 20-yard rolls.....

30 inches wide, 20-yard rolls.....

36 inches wide, 20-yard rolls.....

42 inches wide, 20-yard rolls.....



"IMPERIAL" PENCIL TRACING CLOTH

- 70143 **"Imperial" Pencil Cloth**, one side dull, other side smooth (not glazed) takes ink and pencil readily PER ROLL

30 inches wide, 20-yard rolls.....

36 inches wide, 20-yard rolls.....

42 inches wide, 20-yard rolls.....

ARK - A - TEX

MOISTUREPROOF PENCIL TRACING CLOTH

Keen, sharp, smoother pencil lines — the pencil glides across the cloth. Eye-pleasing transparency. Pencil and pen lines vanish when erased — no change in the surface of the cloth. Available in white or blue. Takes ink and pencil. Pencil line range 6H and up.

PER ROLL

30 inches wide, 20 yard rolls.....

36 inches wide, 20 yard rolls.....

42 inches wide, 20 yard rolls.....

See Price List Inside Back Cover

PRINTED SHEET FORMS**STANDARD BORDER OR TRIM LINES**

1.	_____
2.	_____
3.	_____
4.	_____
5.	_____
6.	_____

Specify by Number Weight of Line Desired for Border and Trim Lines

STANDARD SIZES OF TYPE**ALMOST ANY STYLE OF TYPE DESIRED CAN BE SUPPLIED**

- | | |
|----|--------------------------|
| 1. | B. K. ELLIOTT CO. |
| 2. | B. K. ELLIOTT CO. |
| 3. | B. K. ELLIOTT CO. |
| 4. | B. K. ELLIOTT CO. |
| 5. | B. K. ELLIOTT CO. |
| 6. | B. K. ELLIOTT CO. |
| 7. | B. K. ELLIOTT CO. |
| 8. | B. K. ELLIOTT CO. |
| 9. | B. K. ELLIOTT CO. |

NOTE

As all sheets are printed to your specifications, we ask you to furnish either a sketch or sample of the title block. When blue prints are furnished as a sample, mark dimensions plainly to avoid errors.

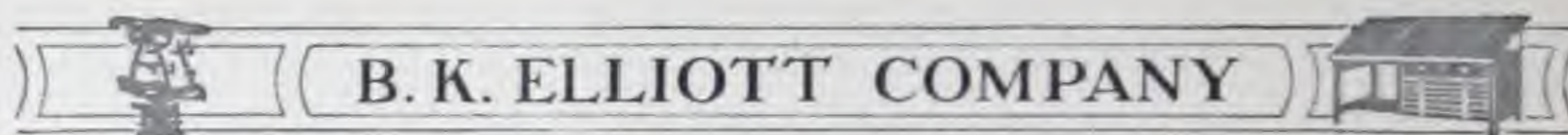
When reverse printing is wanted, a plate is necessary.

When possible, keep the outside (over all) dimensions of the sheet one way at least, so it will cut from standard widths of cloth and paper 30-inch, 36-inch, 42-inch widths.

Long experience in this specialized work enables us to print the largest or smallest sheets perfectly. A special opaque, black, hard drying ink is used that will not smear or rub off even when tracings are constantly handled.

Let us quote on your requirements

See Price List Inside Back Cover

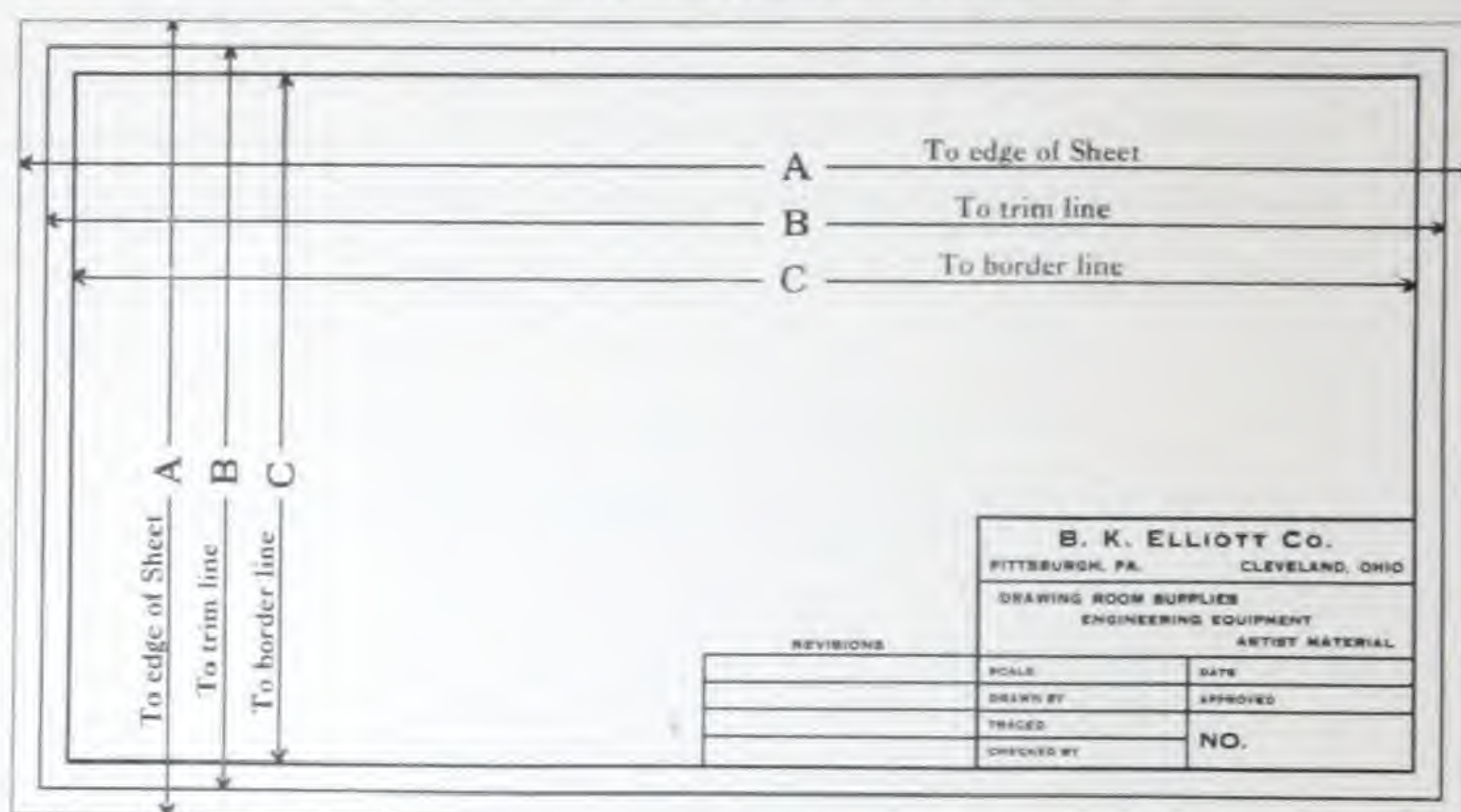


PRINTED SHEET FORMS

TRACING CLOTH—PENCIL TRACING CLOTH

TRACING PAPER AND DRAWING PAPER

Cut Costs—Improve Appearance—Avoid Waste



Printed Sheet Forms are coming into general use more and more every day. They cut costs . . . improve appearance . . . and avoid waste.

If you figure costs—then printed sheets cost much less than ruling border lines and title block and lettering the title block by hand.

If you figure appearance—then printed sheets present uniform ruling and uniform lettering.

If you figure waste—then printed sheets save material because the sheets are exactly the size needed—no extra inches wasted as often occurs when individual sheets are cut by hand from a roll.

It is economical to use printed sheets—always.

When ordering give the following information:

Number of sheets wanted.

Kind of cloth or paper wanted (use Elliott's catalog number as reference when possible)

Give dimensions of over all sheet "A" in inches

Give dimensions to trim lines "B" in inches

Give dimensions to border lines "C" in inches

Give thickness of border lines by No. See Page 15

Give thickness of trim lines by No. See Page 15

Select size of type desired for title block by No. See Page 15

State which side of cloth to be printed, whether dull or glazed side.

NOTE. An allowance of $\frac{3}{8}$ -inch must be made from outside lines to edge of sheet when figuring on sheets up to 18 x 24 inches. On sheet of larger size $\frac{1}{2}$ inch must be allowed.

70161 Tracing Cloth Ink, Black

$\frac{1}{4}$ -LB. TUBES LB. CANS

See Price List Inside Back Cover

~~~~~ PAGE 16 ~~~~~





70171

# **PROTECT-O-LINE**

REG. U.S. PAT. OFF.

**Smudge-Proof . . . Heat-Proof . . . Moisture-Proof  
PENCIL LINE LACQUER**

No more worries, now, over pencil lines on cloth or paper rubbing off, smearing or offsetting. **Protect-O-Line** has a pleasant odor . . . is colorless and transparent . . . safe to use . . . easy to apply . . . dries flat, smooth and streakless in less than 60 seconds . . . will not crack, change color or deteriorate with age . . . and is dull in finish, no glossy or shiny surface. Corrections and additions to drawings protected with **Protect-O-Line** can be made quickly.

70171 **Protect-O-Line Pencil Line** PINT QUART GALLON  
Lacquer, in cans. . . . .

## **TRACING CLOTH CLEANER**

Removes pencil, crayon and dirt from Tracing Cloth, but does not affect Water-proof Ink lines. Will not injure the Cloth.

PINT QUART GALLON

70172 **Tracing Cloth Cleaner.** . . . .

## **ERASOL INK ERADICATOR**

The original Paste Ink Remover for use on Tracing Cloth.

"Erasol" dissolves the binder of the ink on the cloth, picks up the carbon, leaving the surface clean, without injuring the cloth.

DIRECTIONS are printed on each box.

EACH

70173 **"Erasol" Ink Eradicator,** in metal box. . . . .

## **"ELCO" TRANSPARENTIZING SOLUTION**

TRADE MARK

70174 **"Elco" Transparentizing Solution.** . . . PER GAL.

70175 **"Elco" Transparentizing Solution.** . . . PER 1/2 GAL.

70176 **"Elco" Transparentizing Solution.** . . . PER QT.



70174



70177

This solution applied to soiled or old tracings restores their transparency. If applied to brown negatives or drawings on white paper, it greatly increases their transparency.

## **POUNCE FOR TRACING CLOTH**

70177 **Pounce for Tracing Cloth** EACH  
In shakers. . . . .

When tracing cloth or vellum paper will not take the ink readily, apply a small quantity of the Pounce and distribute over surface of the cloth by rubbing with a piece of chamois, waste or similar material, and then remove same before applying the ink.

*See Price List Inside Back Cover*



## TRACING PAPERS



(Reduced facsimiles of labels)

**70181 Teutonia.** Canary color, for tracing details. Very thin, transparent and strong.

REG. U. S. PAT. OFF.

PER ROLL

42 inches wide, 100-yard rolls.....  
 48 inches wide, 100-yard rolls.....  
 42 inches wide, 50-yard rolls.....  
 48 inches wide, 50-yard rolls.....

**70182 Unglazed Natural.** A clear white paper possessing a fine tooth highly desirable for pencil drawings. It is tough and transparent, and owing to its white color pencil marks show up distinctly. Excellent Blue Prints can be made.

PER ROLL

42 inches wide, 20-yard rolls.....  
 42 inches wide, 50-yard rolls.....  
 57 inches wide, 20-yard rolls.....  
 57 inches wide, 50-yard rolls.....

**70183 Elliott Bond.** Here is a very strong, white, smooth surfaced, 100% rag tracing paper. It has fine erasing qualities and takes pencil or ink equally well. Recommended for details.

PER ROLL

36 inches wide, 20-yard rolls.....  
 36 inches wide, 50-yard rolls.....  
 42 inches wide, 20-yard rolls.....  
 42 inches wide, 50-yard rolls.....

**70184 Elliott Thin Bond.** This is a very thin, white, transparent, 100% rag tracing paper possessing a fine tooth for either pencil or ink. Erasing qualities good. Makes excellent blue prints.

PER ROLL

36 inches wide, 25-yard rolls.....  
 36 inches wide, 50-yard rolls.....  
 42 inches wide, 25-yard rolls.....  
 42 inches wide, 50 yard rolls.....

Sample book will be sent on application

See Price List Inside Back Cover





## TRACING PAPERS

### 100% RAG STOCK

The four tracing papers described on this page are all—100% rag—their only difference being in name and weight . . . “Capitol” is thin . . . “Federal” is medium . . . “National” is medium heavy . . . and “Colonial” is heavy. For over a quarter of a century, their qualities have never varied. They are tough (no other paper on the market is stronger, being second only to tracing cloth) . . . pure white . . . transparent will stand a lot of handling . . . possess a smooth working surface . . . have splendid erasing qualities . . . and will not deteriorate with age.

**70191 Capitol.** White, thin weight, very tough and transparent. An excellent paper for architectural sketching and details.

PER ROLL

30 inches wide, 20-yard rolls.....  
36 inches wide, 20-yard rolls.....  
42 inches wide, 20-yard rolls.....  
30 inches wide, 50-yard rolls.....  
36 inches wide, 50-yard rolls.....  
42 inches wide, 50-yard rolls.....

**70192 Federal.** White, medium weight, very strong and transparent. Especially suitable for structural drawings and architectural details and other drawings considerably handled.

PER ROLL

30 inches wide, 20-yard rolls.....  
36 inches wide, 20-yard rolls.....  
42 inches wide, 20-yard rolls.....  
30 inches wide, 50-yard rolls.....  
36 inches wide, 50-yard rolls.....  
42 inches wide, 50-yard rolls.....

**70193. National.** White, medium heavy weight, very strong. Especially suitable for drawings considerably handled. Used extensively by structural engineers.

PER ROLL

30 inches wide, 20-yard rolls.....  
36 inches wide, 20-yard rolls.....  
42 inches wide, 20-yard rolls.....  
30 inches wide, 50-yard rolls.....  
36 inches wide, 50-yard rolls.....  
42 inches wide, 50-yard rolls.....

**70194 Colonial.** White, heavy weight, very tough and transparent excellent for detailing. Makes fine blue prints,

PER ROLL

30 inches wide, 20 yard rolls.....  
36 inches wide, 20 yard rolls.....  
42 inches wide, 20 yard rolls.....  
30 inches wide, 50 yard rolls.....  
36 inches wide, 50 yard rolls.....  
42 inches wide, 50 yard rolls.....

Sample book will be sent on application

See Price List Inside Back Cover



## TRACING PAPERS

**70201 Standard Medium.** A white tracing paper exceptionally suited for sketching and drawing. From drawings made on this paper, fine blue prints can be made quite readily.

PER ROLL

36 inches wide, 20-yard rolls.....  
 36 inches wide, 50-yard rolls.....  
 42 inches wide, 20-yard rolls.....  
 42 inches wide, 50-yard rolls.....

**70202 Othello, Medium.** A white, transparent glazed surface tracing paper. Fine REG. U. S. PAT. OFF. for sketching and making blue prints.

PER ROLL

42 inches wide, 20-yard rolls.....

**70203 Onion Skin.** A thin, white, very transparent, glazed surface tracing paper.

PER ROLL

36 inches wide, 20-yard rolls.....  
 42 inches wide, 20-yard rolls.....

**70204 "Ajax".** A remarkably tough, highly transparent, fine pencil surface paper with good erasing qualities. Will not change color nor become opaque. Takes pencil, ink and water color.

PER ROLL

36 inches wide, 20 yard rolls.....  
 42 inches wide, 20 yard rolls.....  
 36 inches wide, 50 yard rolls.....  
 42 inches wide, 50 yard rolls.....



**70205 "IXL".** An exceedingly tough paper with a distinctive pencil surface and possessing splendid erasing qualities. Affected little by humidity changes. Produces clearest and sharpest prints.

PER ROLL

36 inches wide, 20 yard rolls.....  
 42 inches wide, 20 yard rolls.....  
 36 inches wide, 50 yard rolls.....  
 42 inches wide, 50 yard rolls.....

Sample book will be sent on application

See Price List Inside Back Cover



TRACING PAPERS



# ELLCO-VEL

REG. U. S. PAT. OFF.

## TRACING PAPERS

THE TRACING PAPERS ARCHITECTS,  
ENGINEERS AND DRAFTSMEN SWEAR  
BY . . . . NOT AT.

### 10 DISTINCTIVE ADVANTAGES OFFERED

1. Does Not Become Brittle Or Opaque.
2. Less Affected By Humidity Changes.
3. Unique Working Surface For Pencil.
4. Not Subject To Surface Cracks.
5. Erases Without Ghosts.
6. Fine Transparency.
7. Printing Speed Like Tracing Cloth.
8. Make Perfect Blue Prints.
9. Will Not Change Color With Age.
10. Takes Ink, Crayon and Water Color.

#### 70211 Ellco-Vel (Thin)

PER ROLL

- 30 inches wide, 20-yard rolls
- 36 inches wide, 20-yard rolls
- 42 inches wide, 20-yard rolls

#### 70212 Ellco-Vel

PER ROLL

- 30 inches wide, 20-yard rolls
- 36 inches wide, 20-yard rolls
- 42 inches wide, 20-yard rolls

#### 70213 Ellco-Vel (Heavy)

PER ROLL

- 30 inches wide, 20-yard rolls
- 36 inches wide, 20-yard rolls
- 42 inches wide, 20-yard rolls

Sample book will be sent on application

See Price List Inside Back Cover





## TRACING PAPERS



Monarch Vellums are made from the best 100% rag stock. They stay white permanently, are moderately transparent and odorless. Possess excellent working surfaces with unexcelled erasing qualities. They will not discolor or lose their strength or flexibility because of age. Can be used with either pencil or ink.

**70221 Monarch Vellum.** A white, medium weight, smooth surfaced tracing paper, transparent and strong, with good erasing qualities.

PER ROLL

30 inches wide, 20-yard rolls.....  
36 inches wide, 20-yard rolls.....  
42 inches wide, 20-yard rolls.....

**70222 Monarch Vellum.** Same qualities as No. 70221 but lighter in weight and more transparent.

PER ROLL

30 inches wide, 20-yard rolls.....  
36 inches wide, 20-yard rolls.....  
42 inches wide, 20-yard rolls.....

**70223 Elleo Vellum Medium.** An odorless white, medium weight, 100% rag stock paper. Possesses unusually fine erasing qualities combined with a high degree of transparency and good strength. A fine tooth surface for pencil or ink.

PER ROLL

30 inches wide, 20-yard rolls.....  
36 inches wide, 20-yard rolls.....  
42 inches wide, 20-yard rolls.....

**70224 Elleo Vellum Thin.** Same qualities as 70223 but lighter in weight and more transparent.

PER ROLL

30 inches wide, 20-yard rolls.....  
36 inches wide, 20-yard rolls.....  
42 inches wide, 20-yard rolls.....



**70225 Mercury Vellum.** An excellent substitute for tracing cloth. Made entirely of the best 100% new white rag stock, transparentized with colorless, inert, synthetic resins. It will retain its original white color. It is bone dry giving it an excellent working surface for pencil, ink or water color, with very good erasing qualities.

20 Yds. 50 Yds.

30 inches wide.....  
36 inches wide.....  
42 inches wide.....

Sample book will be sent on application

See Price List Inside Back Cover



# ELLIOTT'S COATED PRODUCTS

DIRECT PRINTING PAPERS

BLUE PRINT PAPERS AND CLOTHS

BROWN PRINT PAPERS AND CLOTHS

**DT** REPRODUCTION TRACING CLOTH

■ ■ ■

Within many miles radius of Pittsburgh, Detroit and Cleveland the name—B. K. Elliott Company—is synonymous with quality products, particularly blue print papers and cloths and brown print papers and cloths.

This reputation, as regards coated products, was built through using the best raw stock and pure chemicals and in applying our solutions in the most scientific manner immediately after receipt of each order.

Our papers possess the better printing properties, give better background and sharpness of line and have superior strength.

During the past forty-eight years, in our Sensitizing Department, we have concentrated on producing sensitized papers and cloths of long "shelf-life", the emulsions of which were adjusted to suit printing conditions of each customer, consequently these coated products are in great demand in the territory we cover.

Our laboratory constantly supervises the preparing of our solutions, as well as the application to the papers and cloths, as ordered by our customers.

We are also constantly searching for new methods in laboratory practice, as well as in the manufacture of coated products.

If you are not a user of Elliott's sensitized products, we invite a trial.



## BLUE PRINT SENSITIZING SOLUTIONS

■ ■ ■

Our blue print papers are offered in two types of coatings—and five printing speeds in each type. The canary yellow coatings are available in Speeds #1, #2, #2½, #3 and #4. The Pre-Blue coatings are available in Speeds #12, #14, #16, #18, and #20. Generally speaking, the critical speeds of both types of solutions are the same, i.e., #1 and #12, #2 and #14, #2½ and #16, #3 and #18, and #4 and #20 being in the same speed classification.

Actually, the pre-blue solutions have somewhat wider range, however, so that the pre-blue coating would overlap the range of its comparable yellow solution. For example, #16 would cover part of #2 and #3 yellow coatings, while having the same critical speed as #2½. In the fast coatings, #20 will run beyond the fastest speed of #4, while its increased range will overlap part of the #3 normal range.

The pre-blue papers require water bath before the application of potash and a slightly stronger potash bath than the yellow solutions.

Fine contrast with rich blues and clear whites are characteristic of all Elliott Blue Print Papers, regardless of whether the yellow or the pre-blue coatings are used.

When ordering blue print papers, be sure to specify by number the printing speed desired.

### CANARY YELLOW COATING

- #1 (also called **Rapid**)
- #2 (also called **Wunminit**)
- #2½ (also called **Special Wunminit**)
- #3 (also called **Extra Rapid**)
- #4 also called **Extra Electric Rapid**

### PRE-BLUE COATING

- #12
- #14
- #16
- #18
- #20



# BLUE PRINT PAPERS



## "SUPERB"

TRADE MARK

**Superb Blue Print Paper** is made of selected white 100% rag stock, hard sized and, when coated with any one of our five (5) different printing speeds in either canary yellow or pre-blue coating, produces superior blue prints. Prints made on this paper have a clear white line and a rich blue background. Of course, slower printing solutions produce better blues on any paper than fast printing solutions. The **Superb** papers are recommended for their unusual strength and toughness and for prints that are intended for use as records which receive an unusual amount of rough handling. **Superb Blue Print Paper** is made in three weights—**Thin, Thick and Extra Thick.**

|       |        |    |    |    |    |
|-------|--------|----|----|----|----|
| WIDTH | INCHES | 30 | 36 | 42 | 54 |
|-------|--------|----|----|----|----|

70251 "Superb" Thin, 16 lbs.

10-yard rolls

50-yard rolls

70252 "Superb" Thick, 24 lbs.

10-yard rolls

50-yard rolls

70253 "Superb" Extra Thick, 30 lbs.

10-yard rolls

50-yard rolls



## "FULTON"

REG. U. S. PAT. OFF.

**"Fulton" Blue Print Paper** is made of 50% selected white rag stock and is produced to meet the demand for a popular blue print paper in shop and field. It is made in three (3) weights—**Thin, Medium and Thick.** It is prepared by us with any one of our five (5) printing speeds in either canary yellow or pre-blue coating which gives our customers choices between slow and very fast printing. This paper possesses fine strength and excellent printing properties.

|       |        |    |    |    |    |    |    |    |
|-------|--------|----|----|----|----|----|----|----|
| WIDTH | INCHES | 24 | 27 | 30 | 36 | 42 | 48 | 54 |
|-------|--------|----|----|----|----|----|----|----|

70254 "Fulton" Thin, 17 lbs.

10-yard rolls

50-yard rolls

70255 "Fulton" Medium, 20½ lbs.

10-yard rolls

50-yard rolls

70256 "Fulton" Thick, 24 lbs.

10-yard rolls

50-yard rolls

Greater length rolls or sheets cut to any size can be furnished

See Price List Inside Back Cover





## BLUE PRINT PAPERS

### "ECONOMY"

TRADE MARK

Economy Blue Print Paper is made of 25% white Rag stock and was selected to meet a demand for a first class blue print paper at a low price and yet it is one which will stand a great deal of handling without showing wear. While this paper does not have the strength and durability of the **Superb** or **Fulton** papers, at the same time, when prepared with any one of our five printing speeds in either canary yellow or pre-blue coating will produce fine blue prints.

|       |        |    |    |    |
|-------|--------|----|----|----|
| WIDTH | INCHES | 30 | 36 | 42 |
|-------|--------|----|----|----|

70261 Economy Medium, 20½ lbs.

|                |       |
|----------------|-------|
| 10-yard rolls. | ..... |
| 50-yard rolls. | ..... |

70262 Economy Thick, 24 lbs.

|                |       |
|----------------|-------|
| 10-yard rolls. | ..... |
| 50-yard rolls. | ..... |



## BLUE PRINT CLOTHS

### "VICTOR"

REG. U. S. PAT. OFF.

Victor Blue Print Cloths are produced in two weights—Thin and Thick. This cloth is carefully woven and, in the making, particular care is given to proper sizing so that when it is sensitized with blue print solutions, best results may be secured. We particularly recommend our Speed 1 (**Rapid**) solution for best results when applied to our **Victor Blue Print Cloth**.

|       |        |    |    |    |    |
|-------|--------|----|----|----|----|
| WIDTH | INCHES | 30 | 36 | 42 | 54 |
|-------|--------|----|----|----|----|

70263 "Victor" Thin

|                |       |
|----------------|-------|
| 10-yard rolls. | ..... |
| 50-yard rolls. | ..... |

70264 "Victor" Thick

|                |       |
|----------------|-------|
| 10-yard rolls. | ..... |
| 50-yard rolls. | ..... |

Greater length rolls or sheets cut to any size can be furnished

*See Price List Inside Back Cover*



## SENSITIZED "SEAL-BROWN" PRINT PAPERS AND CLOTHS

FOR POSITIVE AND NEGATIVE PRINTS

### "SEAL-BROWN" PRINT PAPERS

Best known, where Brown Print Papers are used, are Elliott's "Seal-Brown" Print Papers—recognized as the finest available for making brown prints or negatives. Negatives made on Elliott's Regular "Seal-Brown" Print Papers or Transparentized for Negatives "Seal-Brown" Print Papers are uniformly good . . . never any pin-holes . . . with a brown that is absolutely opaque. Blue Line or Brown Line Prints made from negatives on "Seal-Brown" Print Paper are the finest produced, provided, also Elliott's Blue or "Seal-Brown" Print Papers are used to make them.

70271 "Seal-Brown" Print Paper—Thick (For Positives) 24 lbs.

| WIDTH, INCHES           | 30 | 36 | 42 | 54 |
|-------------------------|----|----|----|----|
| 10-yard rolls . . . . . |    |    |    |    |
| 50-yard rolls . . . . . |    |    |    |    |

70272 "Seal-Brown" Print Paper—Thin (For Positives and Negatives) 14 lbs.

| WIDTH, INCHES           | 30 | 36 | 42 | 54 |
|-------------------------|----|----|----|----|
| 10-yard rolls . . . . . |    |    |    |    |
| 50-yard rolls . . . . . |    |    |    |    |

70273 "Seal-Brown" Print Paper (Transparentized for Negatives) 14 lbs.

| WIDTH, INCHES           | 30 | 36 | 42 | 54 |
|-------------------------|----|----|----|----|
| 10-yard rolls . . . . . |    |    |    |    |
| 50-yard rolls . . . . . |    |    |    |    |

### "SEAL-BROWN" PRINT CLOTHS

Elliott's "Seal-Brown" Print Cloths possess the same high printing qualities as found in the "Seal-Brown" Print Papers. Frequently, "Seal-Brown" Print Cloth is used for permanent record brown line prints. This cloth is woven with extreme care, particular attention being given to the sizing, so that when sensitized, the finest "Seal-Brown" Prints will be produced.

70274 "Seal-Brown" Print Cloth—Thick (For Positives)

| WIDTH, INCHES           | 30 | 36 | 42 | 54 |
|-------------------------|----|----|----|----|
| 10-yard rolls . . . . . |    |    |    |    |
| 50-yard rolls . . . . . |    |    |    |    |

70275 "Seal-Brown" Print Cloth—Thin (For Positives and Negatives)

| WIDTH, INCHES | 30 | 36 | 42 |
|---------------|----|----|----|
|---------------|----|----|----|

10-yard rolls . . . . .  
50-yard rolls . . . . .

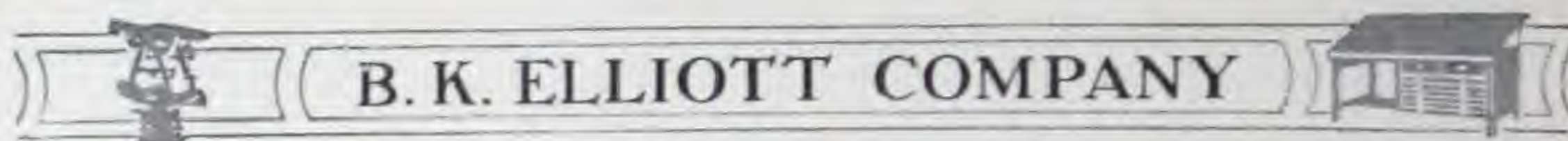
See information for printing, washing, developing and fixing on page 28.

Samples of "Seal-Brown" Print Paper and Cloth will be sent upon request.

See Price List Inside Back Cover







## SENSITIZED "SEAL-BROWN" PRINT PAPERS AND CLOTHS

This paper is the most satisfactory on the market for producing brown prints or negatives. Positive prints (either blue line or brown line on white background) are easily made from negatives made on "Seal-Brown" Print Paper.

It is easily manipulated  
It is a good keeping paper  
It makes Seal-Brown Negatives  
It makes Seal-Brown Line Positives  
It prints rapidly  
It preserves original tracing.

### DIRECTIONS FOR USE

When desiring negatives to be used in producing positives, the tracing should be placed with the ink side next to the emulsion side of the paper. This will make the print on the negative upsidetown, which makes for sharper and clearer positives. Our No. 70272 "Seal Brown" Print Paper Thin, or No. 70273 "Seal Brown" Print Paper Transparentized are best to use for negatives.

### EXPOSURE

The exposure is sufficient (if clean, transparent tracings are used) when the protruding end of the Seal Brown Print Paper assumes a light brown color. A few preliminary tests by an inexperienced person will soon teach him the correct timing of exposure to either sun or electric lights.

### DEVELOPMENT

After the print has been exposed, bathe it in clear, clean water for 5 minutes, first washing it, printed side up, to clear off loose chemicals, then turn printed side down during balance of bathing. When the water bath is finished, the wet print should be fixed by bathing it in a fixing solution made by dissolving  $\frac{1}{2}$  cup (4 oz.) hypo crystals to 3 gallon (1 pail) of water (1% solution). The water should be at room temperature of 70 to 80 degrees or slightly warmer. The print should be kept in the fixing solution for about  $\frac{1}{2}$  minute and then bathed again for 3 minutes in clear, clean water and then hung up to dry. A properly exposed print in the first water bath assumes a reddish-brown color and the lines are perfectly white. On drying, the background turns to an intense brown of great opacity.

### POSITIVES


To produce blue line prints with a white background, use the negative produced by the process mentioned above as a tracing over our Fulton or Superb blue print paper or Victor blue print cloth, which should be printed, washed, developed and washed in the usual manner for making blue prints. To produce brown line prints with a white background, use the negative as tracing over either our "Seal Brown" print paper or "Seal Brown" Print Cloth and proceed in the same way as in making blue line prints but exposing the paper or cloth from 2 to 4 times as long as required in making the negative. The development of these brown line prints is the same as described above for the negative and great care should be taken to see that they are well bathed before and after the fixing solution is applied.

As all sensitized papers are sensitive to heat, moisture and light, proper care should be exercised at all times in keeping your stock on hand. Where more than a few rolls are stocked, the rolls should be stood on end and not stacked in layers as this will eliminate extra loading on the lower layers, which results as a rule in rapid deterioration of sensitized papers.

### USE OF THIN "SEAL-BROWN" PRINT CLOTH FOR REPLACING TRACINGS

Positive prints made from our No. 70275 Thin "Seal-Brown" Cloth are being used extensively when reproductions of tracings are required. A more perfect reproduced tracing is produced by our D T process. See pages 33 and 34.



 B. K. ELLIOTT COMPANY 

# LIN-O

Reg. U. S. Pat. Off.

## PAPERS AND CLOTH



**POSITIVE WHITE PRINTS  
BRILLIANT COLORS  
EXCELLENT CONTRAST  
WIDE PRINTING RANGE  
TRUE TO SCALE COPIES**

---

LIN-O prints can be made on any type of ammonia  
developing equipment





## **LIN-O PAPERS AND CLOTH**

REG. U. S. PAT. OFF.

### **POSITIVE, DRY DEVELOPING PROCESS**

Elliott's LIN-O Direct Printing Papers and Cloth were developed to offer engineers and draftsmen an improved, high quality material for making positive-reading reproductions of engineering and architectural plans and drawings, specifications, photographic material and other originals.

It differs radically from the process of making Blue Prints, Brown Prints, Blue Line Prints and Brown Line Prints. Several operations are eliminated, notably, washing with water, fixing with chemicals, then washing with water and finally drying the prints. This moisture and heat causes expansion and contraction of the prints which results in a less accurate print.

With the LIN-O Direct Printing Process, it is just a matter of exposure and dry developing, using ammonia or any other alkaline vapor. For that reason, LIN-O Prints are truer to scale and less likely to curl.

The LIN-O Direct Printing Process is a method of making positive prints direct from positive originals or negative prints from negative originals of anything drawn, printed, typed or photographed on transparent material.

There is no intermediate step necessary—just exposure and dry development—to make LIN-O prints. Positive originals produce clear, easy-to-read prints with lines in anyone of 4 colors—blue, red, black or sepia—on a white background. Negative originals, of course, will produce negative prints in these same 4 colors.

It is possible, also, to make LIN-O Prints from opaque subjects by having a transparent film made of your original subject. Any photographer, by following the usual photographic steps, can do this for you or we can furnish this service if you desire.

Another feature of Elliott's LIN-O Direct Printing Process is that no special equipment is needed. LIN-O Prints can be made on any type are light, quartz or mercury tube printing equipment and developed in any ammonia developing equipment.



## LIN-O PAPERS AND CLOTH

REG. U. S. PAT. OFF.

### LIN-O PAPERS FOR GENERAL USE

- **LIN-O-BLU**—produces blue lines on white background.

REG. U. S. PAT. OFF.

- **LIN-O-RED**—produces red lines on white background.

REG. U. S. PAT. OFF.

- **LIN-O-BLACK**—produces black lines on white background.

REG. U. S. PAT. OFF.

These papers are for general reproduction work, engineering and architectural drawings, specifications, typed and printed material, etc.

Available in rolls or sheets of any size, and in three weights of paper stock. Thin 17# basis—Medium 20½# basis—Thick 24# basis.

### LIN-O PAPER—TRANSPARENTIZED—FOR INTERMEDIATE USE

- **LIN-O-VEL**—produces sepia lines on white background.

REG. U. S. PAT. OFF.

This is a thin, 14# basis stock 100% rag, transparentized paper with exceptional strength so that it can be used as a substitute for originals in subsequent print production. By using extra LIN-O-VEL prints much greater production can be gotten. LIN-O-VEL prints can be sent to various plants and sub-contractors for making their work prints. Furthermore, these prints save time when design changes are necessary — lines to be corrected can be removed with SEPIA-LINE CORRECTOR and the new design drawn in with pencil or pen.

**7029B1 Lin-O-Vel Transparentized Paper, Thin 14#** 50 Yds. 10 Yds.  
 30 inches wide  
 36 inches wide  
 42 inches wide  
 Sheets In Sizes Desired

### LIN-O CLOTH FOR SPECIAL USE

- **LIN-O-BLU**—produces blue lines on white background.

REG. U. S. PAT. OFF.

This is an opaque cloth for making exceptionally durable prints. It is particularly valuable where the print is to be subjected to extra-heavy wear and tear. From a practical standpoint, LIN-O-BLU CLOTH PRINTS serve a good purpose in the shop as well as for a permanent reference file.

**7029B2 Lin-O-Blue Cloth** 50 Yds. 10 Yds.  
 30 inches wide  
 36 inches wide  
 42 inches wide  
 Sheets In Sizes Desired

IF YOU ARE NOT USING ELLIOTT'S LIN-O PAPERS, WRITE FOR SAMPLES.

See Price List Inside Back Cover





B. K. ELLIOTT COMPANY



# LIN-O PAPERS

REG. U. S. PAT. OFF.

## LIN-O BLU RAPID PRINTING SPEED BLUE LINE

70301 (8017)  
17# Basis

70302 (8019)  
20 $\frac{1}{2}$ # Basis

70303 (8024)  
24# Basis

| WIDTH | 10 Yds. | 25 Yds. | 50 Yds. |
|-------|---------|---------|---------|
| 24"   |         |         |         |
| 30"   |         |         |         |
| 36"   |         |         |         |
| 42"   |         |         |         |
| 54"   |         |         |         |

### Popular Sheet Sizes

| PACKAGE OF | 8 $\frac{1}{2}$ x11 | 9x12 | 11x17 | 12x18 | 17x22 | 18x24 | 22x34 | 24x36 |
|------------|---------------------|------|-------|-------|-------|-------|-------|-------|
| 100 SHEETS |                     |      |       |       |       |       |       |       |
| 250 SHEETS |                     |      |       |       |       |       |       |       |

## LIN-O-BLU REGULAR PRINTING SPEED BLUE LINE

70304 (8117)  
17# Basis

70305 (8119)  
20 $\frac{1}{2}$ # Basis

70306 (8124)  
24# Basis

| WIDTH | 10 Yds. | 25 Yds. | 50 Yds. |
|-------|---------|---------|---------|
| 24"   |         |         |         |
| 30"   |         |         |         |
| 36"   |         |         |         |
| 42"   |         |         |         |
| 54"   |         |         |         |

### Popular Sheet Sizes

| PACKAGE OF | 8 $\frac{1}{2}$ x11 | 9x12 | 11x17 | 12x18 | 17x22 | 18x24 | 22x34 | 24x36 |
|------------|---------------------|------|-------|-------|-------|-------|-------|-------|
| 100 SHEETS |                     |      |       |       |       |       |       |       |
| 250 SHEETS |                     |      |       |       |       |       |       |       |

## LIN-O-BLU EXTRA RAPID PRINTING SPEED BLUE LINE

70307 (8417)  
17# Basis

70308 (8419)  
20 $\frac{1}{2}$ # Basis

70309 (8424)  
24# Basis

| WIDTH | 10 Yds. | 25 Yds. | 50 Yds. |
|-------|---------|---------|---------|
| 24"   |         |         |         |
| 30"   |         |         |         |
| 36"   |         |         |         |
| 42"   |         |         |         |
| 54"   |         |         |         |

### Popular Sheet Sizes

| PACKAGE OF | 8 $\frac{1}{2}$ x11 | 9x12 | 11x17 | 12x18 | 17x22 | 18x24 | 22x34 | 24x36 |
|------------|---------------------|------|-------|-------|-------|-------|-------|-------|
| 100 SHEETS |                     |      |       |       |       |       |       |       |
| 250 SHEETS |                     |      |       |       |       |       |       |       |

Any Other Sheet Sizes Desired—Ask For Separate Price List

See Price List Inside Back Cover





**B. K. ELLIOTT COMPANY**



# LIN-O PAPERS

REG. U. S. PAT. OFF.

## LIN-O-RED RAPID PRINTING SPEED RED LINE

|                                  |                                   |                                  |
|----------------------------------|-----------------------------------|----------------------------------|
| <b>70311 (7017)</b><br>17# Basis | <b>70312 (7019)</b><br>20½# Basis | <b>70313 (7024)</b><br>24# Basis |
| 10 Yds.                          | 25 Yds.                           | 50 Yds.                          |

WIDTH  
24"  
30"  
36"  
42"  
54"

### Popular Sheet Sizes

|                                           |       |      |       |       |       |       |       |       |
|-------------------------------------------|-------|------|-------|-------|-------|-------|-------|-------|
| PACKAGE<br>OF<br>100 SHEETS<br>250 SHEETS | 8½x11 | 9x12 | 11x17 | 12x18 | 17x22 | 18x24 | 22x34 | 24x36 |
|-------------------------------------------|-------|------|-------|-------|-------|-------|-------|-------|

## LIN-O-RED REGULAR PRINTING SPEED RED LINE

|                                  |                                   |                                  |
|----------------------------------|-----------------------------------|----------------------------------|
| <b>70314 (7117)</b><br>17# Basis | <b>70315 (7119)</b><br>20½# Basis | <b>70316 (7124)</b><br>24# Basis |
| 10 Yds.                          | 25 Yds.                           | 50 Yds.                          |

WIDTH  
24"  
30"  
36"  
42"  
54"

### Popular Sheet Sizes

|                                           |       |      |       |       |       |       |       |       |
|-------------------------------------------|-------|------|-------|-------|-------|-------|-------|-------|
| PACKAGE<br>OF<br>100 SHEETS<br>250 SHEETS | 8½x11 | 9x12 | 11x17 | 12x18 | 17x22 | 18x24 | 22x34 | 24x36 |
|-------------------------------------------|-------|------|-------|-------|-------|-------|-------|-------|

## LIN-O-BLACK RAPID PRINTING SPEED BLACK LINE

|                                  |                                   |                                  |
|----------------------------------|-----------------------------------|----------------------------------|
| <b>70317 (9017)</b><br>17# Basis | <b>70318 (9019)</b><br>20½# Basis | <b>70319 (9024)</b><br>24# Basis |
| 10 Yds.                          | 25 Yds.                           | 50 Yds.                          |

WIDTH  
24"  
30"  
36"  
42"  
54"

### Popular Sheet Sizes

|                                           |       |      |       |       |       |       |       |       |
|-------------------------------------------|-------|------|-------|-------|-------|-------|-------|-------|
| PACKAGE<br>OF<br>100 SHEETS<br>250 SHEETS | 8½x11 | 9x12 | 11x17 | 12x18 | 17x22 | 18x24 | 22x34 | 24x36 |
|-------------------------------------------|-------|------|-------|-------|-------|-------|-------|-------|

Any Other Sheet Sizes Desired—Ask for Separate Price List

*See Price List Inside Back Cover*





# POSI-BLAC

## PAPERS AND CLOTHS

A semi-dry process for producing black lines on white background.

### DIRECT POSITIVE PRINT PAPER AND CLOTH

POSI-BLACK products reproduce original tracings by producing **black lines** on a **white background** without the use of a negative. Either paper or opaque cloth positive prints can be produced quickly by two time-saving processes.

Many engineers find POSI-BLACK prints superior because the highly contrasting black lines improve the legibility of their prints. Additions and corrections can be made with ease by pencil, pen, watercolor, typewriter or rubber stamp. POSI-BLACK papers and cloths are used widely in the reproduction of machine designs, charts, specification sheets, topographic work, architectural drawings and many other subjects.

POSI-BLACK prints are made in a much shorter time than are blue prints. The paper is exposed under a transparent original to arc lamp, Cooper-Hewitt tube, quartz tube or sunlight. The developing solution is then applied to the sensitized side only and the black image appears immediately. Developing is done on a standard table developing machine.

The two steps can be combined in one continuous process on any of the special printing and developing machines made for this purpose.

|                            | WIDTH, INCHES | 30 | 36 | 42 |
|----------------------------|---------------|----|----|----|
| 70321 Posi-Blac Paper—Thin |               |    |    |    |
| 50-yard rolls.....         |               |    |    |    |
| 10-yard rolls.....         |               |    |    |    |

|                             | WIDTH, INCHES | 30 | 36 | 42 | 54 |
|-----------------------------|---------------|----|----|----|----|
| 70322 Posi-Blac Paper—Thick |               |    |    |    |    |
| 50-yard rolls.....          |               |    |    |    |    |
| 10-yard rolls.....          |               |    |    |    |    |

|                            | WIDTH, INCHES | 30 | 36 | 42 |
|----------------------------|---------------|----|----|----|
| 70323 Posi-Blac Cloth—Thin |               |    |    |    |
| 50-yard rolls.....         |               |    |    |    |
| 10-yard rolls.....         |               |    |    |    |

|                             | WIDTH, INCHES | 30 | 36 | 42 |
|-----------------------------|---------------|----|----|----|
| 70324 Posi-Blac Cloth—Thick |               |    |    |    |
| 50-yard rolls.....          |               |    |    |    |
| 10-yard rolls.....          |               |    |    |    |

Posi-Blac Paper and Cloth can be furnished in sheets of any desired size.

### POSI-BLAC DEVELOPER

|                                                                | PER BOX |
|----------------------------------------------------------------|---------|
| 70325 Posi-Blac Developer—to make Half Gallon of Solution..... |         |
| 70326 Posi-Blac Developer—to make Quart of Solution.....       |         |

Instructions for mixing solution on every box

See Price List Inside Back Cover



ELLIOTT'S  
"DT" Reproduction  
TRACING  
CLOTH

(REG. U. S. PAT. OFF.)

DT

**SHORT CUT . . . ORIGINALS TO TRACINGS**

**ELIMINATES HAND TRACING . . . ACCURATE . . .  
PERMANENT . . . AND INEXPENSIVE.**

- DT** PERMANENT OPAQUE BLACK LINES
- DT** EASY DEVELOPING QUALITIES
- DT** FAST PRINTING SPEED
- DT** WIDE PRINTING RANGE
- DT** FINE KEEPING QUALITIES
- DT** WATERPROOFING WON'T SCALE OFF

SUBJECTS FROM WHICH "DT" TRACINGS CAN BE MADE

*BLUE PRINTS*

*NEW TRACINGS*

*OLD TRACINGS*

*INK OR PENCIL DRAWINGS*

*SUBJECTS MADE ON OPAQUE PAPERS*





REPRODUCTION  
TRACING  
CLOTH

FOR MAKING REPRODUCED TRACINGS

D T—meaning **Duplicate Tracings**—Reproduction Tracing Cloth is a waterproofed tracing cloth treated with a special emulsion sensitive to light.

**WHY ELLIOTT'S DEVELOPED D T REPRODUCTION TRACING CLOTH**

Because of the insistent demand for a duplicate tracing cloth that is of the same high standards and qualities of other Elliott products, we developed D T Reproduction Tracing Cloth—a duplicate tracing process that is quick, accurate, much lower in cost than tracing by hand, and an exact positive copy of the original. Tracings made on D T Reproduction Tracing Cloth are errorless copies with permanent jet black lines produced on specially prepared waterproof tracing cloth.

**SUBJECTS FROM WHICH TO MAKE TRACINGS UNLIMITED**

No matter what the subjects—blue prints, new tracings, old tracings, ink or pencil drawings, parts of various drawings to be assembled into one tracing, or subjects made on opaque papers—they can be duplicated successfully on D T Reproduction Tracing Cloth. Mutilated subjects—worn, dirty, cracked or torn—can be duplicated, too, if the lines and figures are fairly clear and legible. Blocking out can be done, if necessary, on the negative and new work or blocked out work redrawn on the D T Tracing.

**D T TRACINGS NOT LIMITED TO SAME SIZE**

Larger or smaller D T Tracings can be made from the original subject by making a photographic negative the size needed and printing from it. Should you not have photographic equipment to make a negative, we will make one for you at a reasonable cost.

**HOW TO MAKE D T TRACINGS**

D T Tracings are made by contacting a negative made from an original tracing on our "Seal-Brown" Print negative paper and exposed in any Blue Print Machine or Vacuum Frame (we use and recommend a vacuum frame to insure proper over-all contact and sharpness of lines). Should the original drawing be an opaque subject it is necessary to make a photographic film. Only water and developer baths are required to finish a D T Tracing. Little extra equipment, therefore, is needed to an already established blue printing department. Instructions for mixing developer solution are on every box of developer.

Where you have no facilities for making D T Tracings our complete, expert reproduction services are available. Prices upon application.

**D T REPRODUCTION TRACING CLOTH**

|                           |          |        |         |         |
|---------------------------|----------|--------|---------|---------|
| 70341                     | PER YARD | 5 YDS. | 20 YDS. | 50 YDS. |
| 30" Wide                  |          |        |         |         |
| 36" Wide                  |          |        |         |         |
| 42" Wide                  |          |        |         |         |
| 70342 D T Developer Salts |          |        |         | PER BOX |

See Price List Inside Back Cover





## PEASE "55-G"

### CONTINUOUS WHITEPRINTING AND DEVELOPING EQUIPMENT (DRY DIRECT)

**PEASE "55-G"**— the newest and finest medium production Whiteprinting and Developing Machine (Dry Direct Process) on the market, possess so many exclusive, outstanding features, and so much greater printing and developing speed and capacity, that, considering initial investment, it is in a distinct class by itself, completely outperforming any other machine at anywhere near the price. Exhaustive tests prove conclusively that **Pease "55-G"** has "more of everything" you want. It is made in 42 inch size only.

**33⅓% More Printing Speed**—superior production speeds, ranging from 5 feet per minute up to 12 feet or even more per minute.

**75% More Developing Speed**—actual developing speeds range up to 12 feet per minute, far surpassing those of any combination Whiteprinting and Developing Machines selling for within one thousand dollars of its price.

**50% More Printing Light**—new 55 watt per inch high pressure mercury tube provides intense, even printing light over entire width of the contact glass.





## PEASE "55-G" Features . . .

1. **Pease "55" Printer**—is used only in combination with Pease "G" Developer and cannot be purchased separately. It is made in 42 inch width and will print average tracings at speeds ranging from five to ten feet per minute, and up to twelve feet or even more per minute using good clean onionskin tracings.

2. **Sliding "Vacuum-Like" Contact**—smooths out all wrinkles in tracings and prevents errors in printing. The 55 watt per inch tube is mounted close to contact glass, and an Alzak reflector provides greatest possible illumination. A foot treadle releases tension on contact band, allowing easy withdrawal of tracings.

3. **55 Watt Per Inch High Pressure Mercury Tube**—gives an intense, even printing light over the entire area of tracing, assuring fidelity of reproduction and uniform exposure.

4. **Adjustable Light Shutter**—provides regulation of exposure without changing mechanical speed when tracings of varying density are run.

5. **Safety Features**—make it impossible to touch tube when current is on. Special high voltage cable that will not deteriorate from light or heat is used.

6. **Low And High Gear Shift Lever**—provides an overall speed range from six inches in low gear to twelve feet or even more per minute in high gear.

7. **Pease "G" Developer**—cannot be operated separately because it is driven directly from the motor which drives the printer and is synchronized with the printer. It has a developing speed range of from six inches up to twelve feet per minute and cannot be run as an individual unit.

8. **Undeveloped Prints**—which have gone through the "55" Printer are fed into the developer at front of machine. After developing, they are returned to a tray at front above developer feed board. A special endless rubber belt carries exposed prints over a perforated stainless steel plate.

9. **Rate Of Aqueous Ammonia Flow**—is controlled by a needle valve. Amount of ammonia in storage tank can be read in glass tube of control mechanism. Ammonia is contained in a stainless steel supply tank within machine.

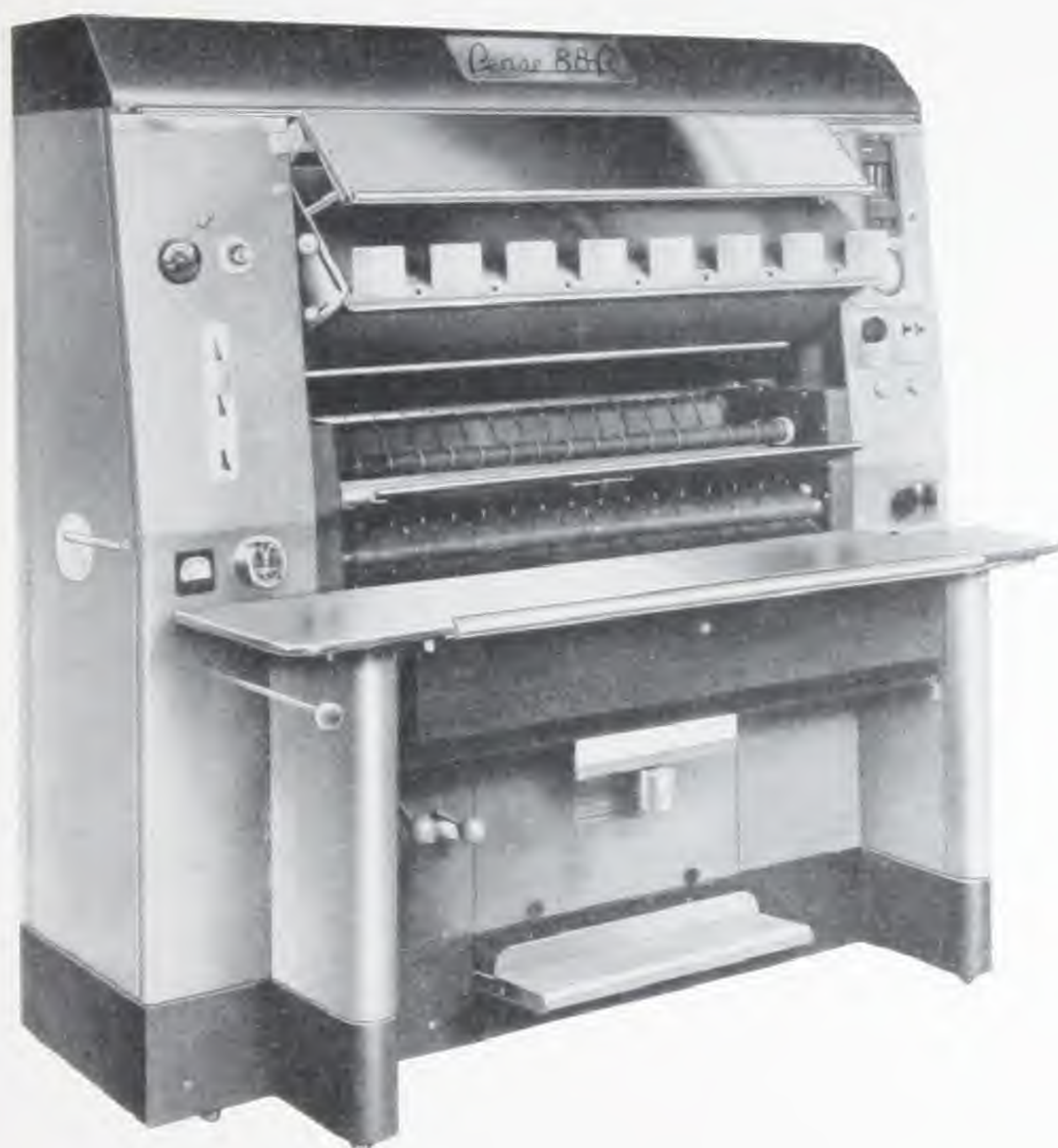
10. **Positive Fume Exhaust**—consists of blower fan and special vent which prevents accumulation of ammonia fumes in the room.

70361 Pease 55-G

EACH

*See Price List Inside Back Cover*





## PEASE "88-R"

### COMPLETE CONTINUOUS WHITEPRINTING AND DEVELOPING EQUIPMENT (DRY DIRECT)

Pease "88-R"—Complete Continuous Whiteprinting and Developing Machine, produces Whiteprints (blue, black or red lines on white background). Either cut sheet(s) or rolls, at an actual production speed of 30 feet per minute. Further, it assures the finest quality reproduction because it removes all guesswork. All controls are positive and once they are properly set all else is practically automatic and finished prints are delivered in a matter of seconds. It is made in 42 inch size only.





## PEASE "88-R" Features . . .

1. **Revolving Or Sliding Revolving Contact**—(patented feature) combines desirable features of both methods. Clutch lever allows operator to instantly convert from straight revolving, for small tracings to sliding revolving for tracings in poor condition and large tracings.

2. **Positive Tracings Separation**—prevents tracings from carrying through machine. Paper and tracings are definitely separated for repeat printing even when fed with considerable overlapping.

3. **Easy Feeding**—paper and tracings are easily fed onto the continuous tapes of the printer. The feeding entrance is such that it automatically unrolls turned edges of tracings.

4. **Light Control**—75 watt per inch High Pressure Mercury Tube inside the 8¼ inch diameter pyrex cylinder provides maximum printing speed. An alzak reflector also serves as a variable light shutter for controlling the printing speed.

5. **Ammonia Feed Control**—manual or automatic at operator's option. A knurled knob is used for manual control, while a switch, with high and low speed positions gives automatic control. Glass tubes indicate rate of flow. A switch operates pump which carries ammonia from storage tank to developer tank.

6. **Developer Band Control**—a knurled knob shifts special developer band to right or left at operators option. Thus uneven band wear is eliminated.

7. **Economical Use of Ammonia**—either the manual or automatic method is economical and uses less ammonia than other whiteprint machines, providing complete control of ammonia consumption under all conditions of room temperature and material.

8. **Developer Instantly Disengaged**—lever under feed board disengages entire developer mechanism from printer, providing economy in use of ammonia.

9. **Stacked Tracings And Prints Save Time**—tracings are returned to front of machine stacked face down for repeat printing. Cut sheet prints are stacked for easy handling, front or rear at operator's option. Rolled stock is rerolled, at rear of machine, ready for trimming.

10. **Operator Comfort And Safety**—better work, confidence in the machine and peace of mind, are assured because all these factors have been build in. All dangerous moving parts and electrical circuits are behind locked doors which automatically break the circuit when opened.

70381 Pease 88-R. . . . .

EACH

*See Price List Inside Back Cover*





## PEASE "J"

### WHITEPRINT DEVELOPING MACHINE

**Pease "J"**—is the fastest and best table type Whiteprint Developing Machine on the market because it has 10 feet per minute developing speed, unequalled performance, small initial investment and low operating cost. It develops dry direct process prints (ammonia vapors), and can be used with any Blueprinting or Direct Process Printing Machine you have or purchase. Pease "J" operates efficiently with any **dry** direct process paper.

**EASILY THE LEADER**—Pease "J" Whiteprint Developing Machine outclasses all other table style machines in:

1. **Superior Speed**—with two developing speeds—five feet (low) and ten feet (high) per minute actual developing speed, faster than any other.
2. **Quality Performance**—produces finished whiteprints which are flat, with solid blue lines and clean white backgrounds.
3. **Exceptional Ease Of Operation**—because designed for simplicity of control. Just feed the exposed prints in and the developed prints are returned to the front of the machine.
4. **Complete Ammonia Evaporation**—is accomplished by using an adequate heating coil below the three evaporating trays. This feature insures superior developing results and economy.
5. **Positive Fume Exhaust System**—consisting of blower and special vent, carries all ammonia fumes away so they do not accumulate.
6. **Long Life**—means a machine built to stand up under long hours of day in, day out continuous operation.
7. **Sturdy Construction**—framework is all steel, arc welded. Housing is heavy gauge sheet metal. All parts which come into direct contact with ammonia are made of stainless steel.

EACH

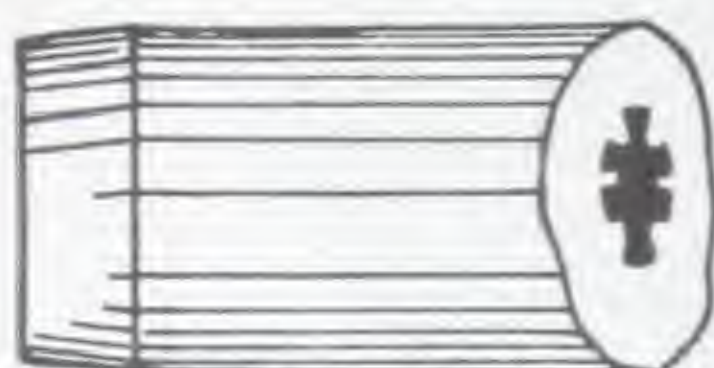
70391 Pease "J" .....

*See Price List Inside Back Cover*

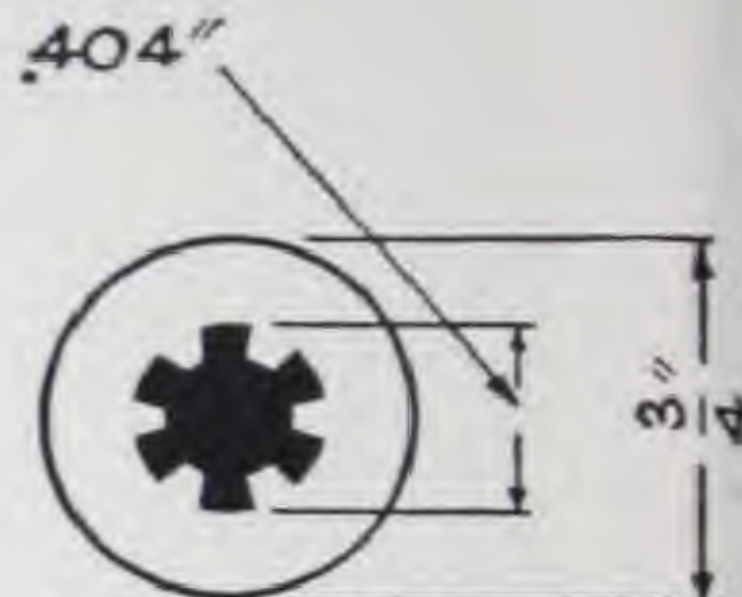




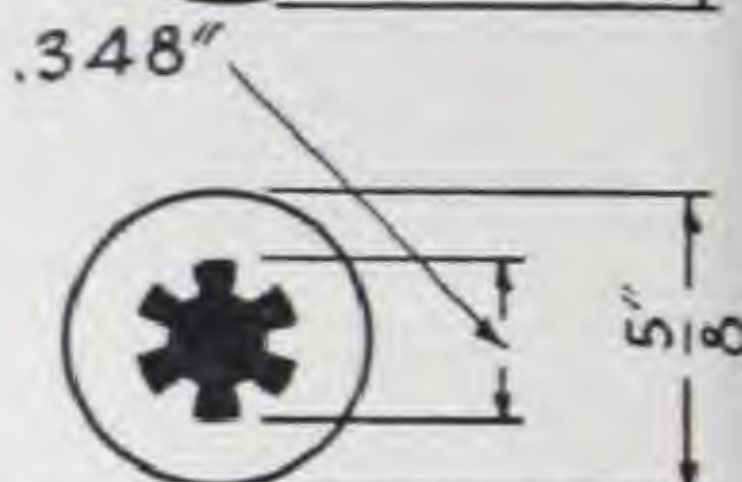
ARC LAMP CARBONS  
ACTUAL SIZE DIAGRAMS



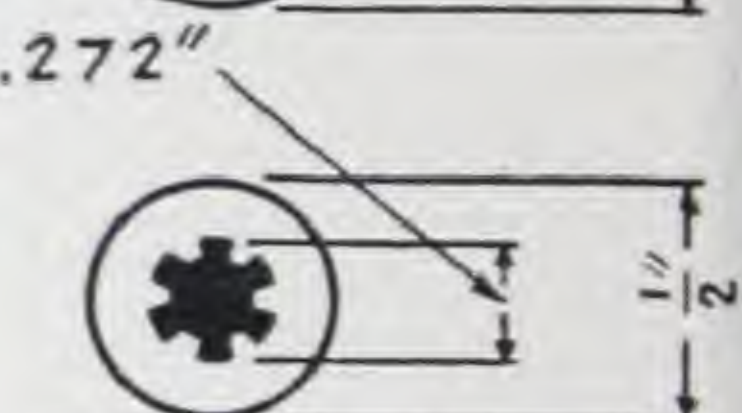
Length 12 inches.



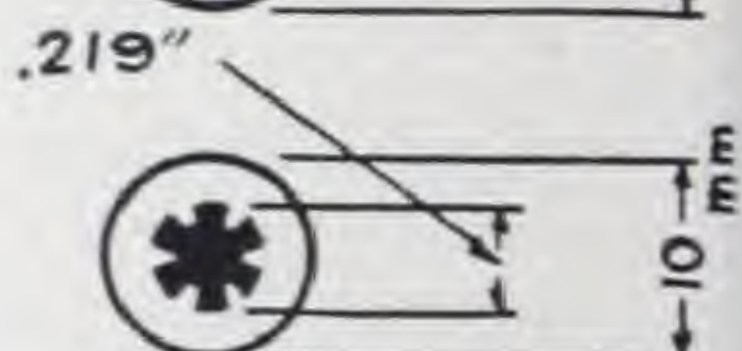
Length 12 inches.



Length 12 inches.



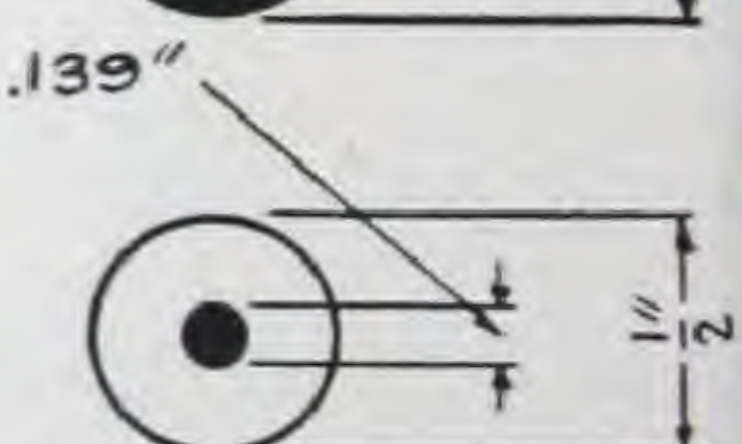
Length 12 inches.



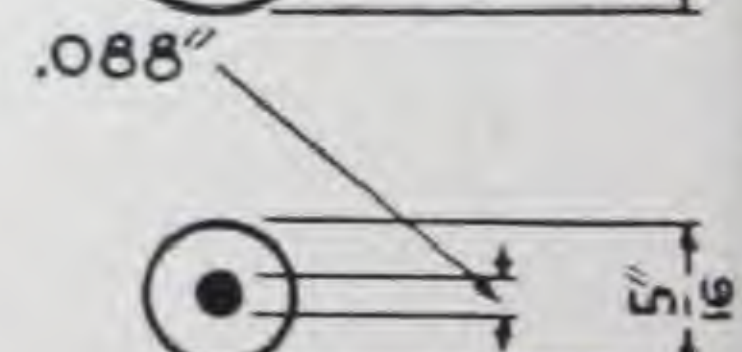
Lengths 2, 6 3/4, 9, 12 and 16 inches.



Lengths 2, 6 3/4, 9, 12 and 16 inches.



Length 8 inches.



See Price List Inside Back Cover





## ARC LAMP CARBONS

National Carbons provide the very best results because they are specially manufactured for blue printing and photographic arc lamp purposes. They burn long with a steady arc and produce a uniform light, rich in actinic value so necessary for accurate exposure and fine reproduction.

### NATIONAL ENCLOSED ARC LAMP CARBONS

|        |                                             | EACH | PER 50  | PER 250 |
|--------|---------------------------------------------|------|---------|---------|
| 70411  | Size $\frac{1}{2}$ x 12 Solid               |      |         |         |
| 70412  | Size $\frac{1}{2}$ x 12 Cored               |      |         |         |
| 70413  | Size $\frac{1}{2}$ x 9 Solid                |      |         |         |
| 70414  | Size $\frac{1}{2}$ x 9 Cored                |      |         |         |
| 70415  | Size $\frac{1}{2}$ x 16 Solid               |      |         |         |
| 70416  | Size $\frac{1}{2}$ x 16 Cored               |      |         |         |
| 70417  | Size $\frac{5}{16}$ x 8 Cored               |      |         |         |
| 70418  | Size $\frac{1}{2}$ x 6- $\frac{3}{4}$ Solid |      |         |         |
| 70419  | Size $\frac{1}{2}$ x 6- $\frac{3}{4}$ Cored |      |         |         |
|        |                                             | EACH | PER 150 | PER 750 |
| 704110 | Size $\frac{1}{2}$ x 2 Solid                |      |         |         |
| 704111 | Size $\frac{1}{2}$ x 2 Cored                |      |         |         |

### NATIONAL WHITE FLAME CARBONS FOR OPEN ARC LAMPS

|        |                                              | EACH | PER 50 | PER 250 |
|--------|----------------------------------------------|------|--------|---------|
| 704112 | Size 10MM x 12 inches Plain                  |      |        |         |
| 704113 | Size 10MM x 12 inches Copper Coated          |      |        |         |
| 704114 | Size $\frac{1}{2}$ x 12 inches Plain         |      |        |         |
| 704115 | Size $\frac{1}{2}$ x 12 inches Copper Coated |      |        |         |
| 704116 | Size $\frac{5}{8}$ x 12 inches Plain         |      |        |         |
| 704117 | Size $\frac{5}{8}$ x 12 inches Copper Coated |      |        |         |
| 704118 | Size $\frac{3}{4}$ x 12 inches Plain         |      |        |         |
| 704119 | Size $\frac{3}{4}$ x 12 inches Copper Coated |      |        |         |
| 704120 | Size $\frac{7}{8}$ x 12 inches Plain         |      |        |         |
| 704121 | Size $\frac{7}{8}$ x 12 inches Copper Coated |      |        |         |

## GLOBE BRUSH AND CARBON PLIERS

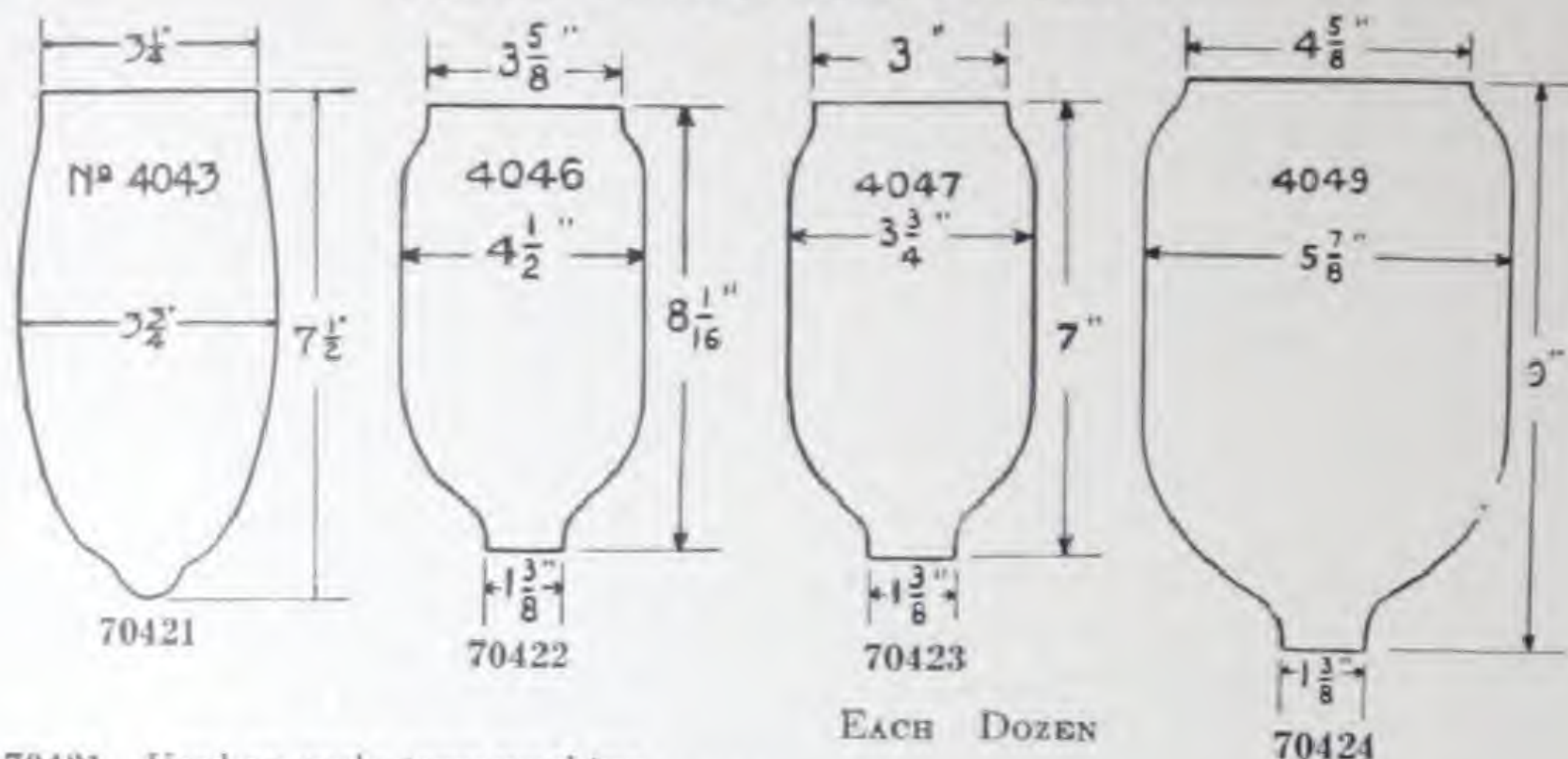


- |                                                                           |               |      |
|---------------------------------------------------------------------------|---------------|------|
| 704122                                                                    | Globe Brush   | EACH |
| A great help when cleaning globes.                                        |               |      |
| 704123                                                                    | Carbon Pliers |      |
| A very useful tool saves carbons and time, especially when lamps are hot. |               |      |

See Price List Inside Back Cover



## BLUE PRINT LAMP GLOBES (Thermex) FOR PEASE BLUE PRINT MACHINES



70421 Used on early type machine.....

70422 Used on No. 11 B. P. Machine and  
Type U Arc Lamps on Senior Vertical...

70423 Used on latest Continuous Machines  
and Junior Vertical.....

70424 Used on Senior Vertical with Super-  
Actinic Lamp installed.....

### "PROTECT-O-PRINT"

Protects Prints from Grease and Dirt

In machine shops, particularly, Protect-O-Print is most appreciated. Blue and Blue Line Prints, Brown and Brown Line Prints and Black and White Prints, coated with Protect-O-Print, using either a brush, atomizer or air-brush, are easily wiped clean of grease and dirt... keeping every part of the print readable and minimizing the possibility of error where figures or lines otherwise might be obscured. Merely by taking a cotton or woolen cloth and wiping the print, it becomes as clean and fresh as when it was first printed. Use Protect-O-Print to protect your prints.

70425 Protect-O-Print..... PINT QUART GALLON



70425



70426

70426 Wood Clothes  
Pins. For hanging  
blue prints while  
drying.

Per dozen.....

70427 Metal Clothes Pins. For hanging blue prints  
while drying. Per dozen.....



70427

See Price List Inside Back Cover



## ERASING FLUIDS



70431

### "ELLCO" ERASING FLUIDS

For Use on Blue Prints

Architects, Engineers and Draftsmen everywhere find "Ellco" White, Yellow and Red Erasing Fluids the ideal erasing fluids for blocking out, making alterations, corrections, markings, or tintings on blue prints or blue line prints. "Ellco" Erasing Fluids come in convenient sized glass bottles (1 $\frac{5}{8}$  oz.) ready for use with pen or brush. Colors register true red or yellow.

PER BOTTLE

#### 70431 "Ellco" "White" Erasing Fluid

For making alterations on blue prints, 1 $\frac{5}{8}$  oz. ....

#### 70432 "Ellco" "Red" Erasing Fluid

For marking or tinting blue prints, 1 $\frac{5}{8}$  oz. ....

#### 70433 "Ellco" "Yellow" Erasing Fluid

For marking or tinting blue prints, 1 $\frac{5}{8}$  oz. ....

### "ELLCO" BROWN ERASING FLUID

For Use on Brown Prints

"Ellco" Brown Erasing Fluid makes quick, clean corrections and alterations on brown prints and brown line prints. Do not subject corrected print to repeated printing exposures.

PER BOTTLE

#### 70434 "Ellco" "Brown" Erasing Fluid, 1 $\frac{5}{8}$ oz. ....



70434

### "ELLCO" "A" AND "B" ERASING FLUIDS

After mixing equal parts of both "A" and "B" Fluids, a solution is obtained that makes complete and permanent erasures on Photocopies, Photographs and Brown Prints. Caution: Handle with extreme care, keep away from open sores and the mouth, as it is poisonous.



70435 A



70435 B

#### 70435 "Ellco" "A" and "B" Erasing Fluids. ....

1 $\frac{5}{8}$  Oz.      1/2 PINT      1 PINT  
EACH BOTTLE    EACH BOTTLE    EACH BOTTLE

See Price List Inside Back Cover





70441

**"ELICO"**  
TRADE MARK

**BLUE PRINT RIBBON**

**Needs No Backing-Up With Carbon Paper**

From among the many Blue Print Ribbons we have tested, this is the only one we have discovered that gives dense, opaque typewriter characters without using carbon paper for backing-up. For writing specifications, typing on tracing paper and cloth or other transparent material . . . "Ellico" Blue Print Ribbon is superior . . . producing excellent Blue Prints. Another feature of this ribbon is that the ink does not spread around the typewriter characters, the cause of a "halo" or "fog" seen so frequently on Blue Prints.

Can be supplied for most makes of standard typewriters.

70441 "Ellico" Blue Print Ribbon

EACH

**POTASH (Bichromate of) FOR INTENSIFYING BLUE PRINTS**

Recommended for use in continuous Blue Printing Machines. Can also be used for hand developing of Blue Prints. A solution of 1 oz. of potash to 1 gallon of water will intensify the color and make prints more permanent. Clear water should be applied before and after the potash bath.



70442 Bichromate of Potash

5 LBS. 10 LBS.

70442

**"BLU-SET"**

A highly concentrated chemical for intensifying blueprints. Eliminates all danger of potash poisoning or skin irritations. Directions on bottle.

70443 Blue-set

PINT

**HYPO CRYSTALS**

Fixing Salts for Brown Prints and Negatives. See page 28 for instructions.

70444 Hypo Crystals

PER LB. 5 LB. 25 LB.

**BLUCO SOLVENT**

A solution for removing blue print solution that gathers on the rollers on blue print equipment. It cleans quickly and easily. Excellent for cleaning drain pipes, also.

70445 Bluco Solvent

PER GALLON

**Quickstick, Coldwater Paste Powder.** A concentrated vegetable glue in dry powder form for use on continuous blue print machines. Prepared for use in a few seconds. Dries almost instantly and will not pull apart.

70446

1 LB. CARTON 25 LB. CARTON 50 LB. DRUM

*See Price List Inside Back Cover*



**LIN-O CORRECTOR**

For Correcting Lin-O-Red, Lin-O-Blu, and Lin-O-Black Prints or any other type of ammonia developed prints.

Set of three bottles, with instructions for use on box.

PER SET

**70451** Lin-O Corrector .....

**SEPIA LINE CORRECTOR**

This corrector is used to eliminate lines or make corrections on all transparent ammonia prints.

PER BOTTLE

**70452** Sepia Line Corrector .....

**AMMONIA**

For Developing Lin-O Paper

GALLON

**70453** Ammonia (26°) .....

**AER-NU NEUTRALIZER**

Neutralizes Ammonia and other offensive odors.

A portable Evaporator Unit, 7 x 13 inches using a chemical solution. This unit will serve 10,000 cubic feet of space or less by varying the wattage of the heating bulb from 15 to 100 watts (AC-DC).

Container holds one gallon AER-NU liquid, furnished ready to use.

Leaves no "after" odor.

Absolutely harmless, non-toxic.

No fire hazard, nothing to light or burn. Non-inflammable.



**70454**

EACH

**70454** AER-NU Portable Unit .....

GALLON

**70455** AER-NU Liquid .....

*See Price List Inside Back Cover*



## REPRODUCTION DEPARTMENT

In both Pittsburgh and Cleveland, we operate large printing departments, using the latest types of printing equipment for making various kinds of reproductions.

Our modern continuous electric printing, washing and drying equipment enables us to complete any size order for printing in the shortest possible time.

Prints on either paper or cloth, whichever is desired, up to 54" wide, of any length, may be made in one continuous sheet, and when desired can be finished "mounted on muslin."

Only the best materials are used in our Printing Departments, thereby securing for you the best possible prints according to the condition of your tracings.

As we insure the tracings and prints of out-of-town customers when returning them by parcel post or express, we suggest that you insure them at their proper value when sending them to us so that in case of loss or damage, you are adequately protected.

Various processes are given below:

**BLUE PRINTS**—Pure white lines on deep blue background. Made on high grade rag stock paper in thin, medium or thick weights or on thin or thick cloth. ANY LENGTH AND UP TO 54 INCHES IN WIDTH.

**BLUE LINE PRINTS**—Deep blue lines on pure white background. Prints are made on exactly the same materials as blue prints. ANY LENGTH AND UP TO 54 INCHES IN WIDTH.

**SEAL-BROWN PRINTS** (Negatives) — Pure white lines on a seal-brown background. Made on 100% rag stock paper in thin or thick weights (thin is recommended where brown line or blue line prints are to be made). ANY LENGTH AND UP TO 54 INCHES IN WIDTH.

**SEAL-BROWN LINE PRINTS** (Positives) — Seal-brown lines on pure white background. Made on either thick or thin 100% rag stock paper or linen cloth. ANY LENGTH AND UP TO 54 INCHES IN WIDTH.

**LIN-O-PRINTS**—Positive Blue, Black or Red Line Prints with a white background. Made direct from tracings or transparent original subjects. This reproduction process is available for those preferring direct white prints over Blue Prints, Brown Line Prints or Blue Line Prints.





Branch House — 733 Prospect Avenue — Cleveland, Ohio





"D"

PHO

PHO

FOT

PHO

GIA



**REPRODUCTION DEPARTMENT**

**"D T" CLOTH TRACINGS** — A short-cut from original ink or pencil drawings to tracings. Tracings are errorless copies with lines of permanent jet black produced on specially prepared waterproof tracing cloth either reduced, enlarged or in exact size. Blocking out of any portion of the original can be done when making the "D T" tracing and the changed section drawn in after the tracing is made. Because of their extreme durability, Federal, State, County and Municipal Governments and many corporations use "D T" tracings extensively. Tracing sizes POSSIBLE 117 INCHES BY 54 INCHES WIDE.

**PHOTO-LITHO PRINTS** — The quick, accurate, economical method of reproducing 100 or more exact copies of any subject either enlarged, reduced or the same size in black and white or color on any material from tracing paper to cardboard. Sizes possible — postage stamp size to 36" x 48".

**PHOTOCOPY PRINTS (Negatives)** — White lines on a black background. A rapid, errorless, permanent, inexpensive photographic paper copy of anything written, printed, drawn or traced. Subjects can be enlarged, reduced or kept the same size. Prints possible from postage stamp size up to 18" x 24".

**FOTO-DRAFT**—Contact Reflex Photo-copy Prints, from transparent or opaque subjects, made the same size as originals.

Either Negative or Positive reproductions can be furnished any size up to 40 x 108 inches.

**PHOTOCOPY PRINTS (Positives)** — Black lines on a white background and made from a photocopy paper negative or any negative subject such as a blue print or brown print.

**GIANT PHOTOCOPY PRINTS** — These prints are similar to photocopy prints as original subjects can be reduced, made the same size, or enlarged. Enlargements can be made up to 40 inches wide by 10 feet long in one piece. Even larger prints can be made, however, by joining enlargements, giving almost unlimited sizes. They are particularly desirable for enlarging or reducing tracings, maps, and blue prints, as well as any subject typed, printed, written or drawn. Made on a heavy, tough paper that will stand a lot of handling.



## TUBES FOR PRESERVING PAPER



704803

Made of best tin, with tight fitting cap; for keeping broken rolls of blue print paper and brown print paper from light and moisture. Can also be used for filing drawings.

|             | LENGTH IN<br>INCHES | DIAMETER IN<br>INCHES | EACH |
|-------------|---------------------|-----------------------|------|
| 704801..... | 24                  | 2½                    |      |
| 704802..... | 31                  | 2½                    |      |
| 704803..... | 37                  | 2½                    |      |
| 704804..... | 43                  | 2½                    |      |
| 704805..... | 55                  | 2½                    |      |
| 704806..... | 24                  | 3½                    |      |
| 704807..... | 31                  | 3½                    |      |
| 704808..... | 37                  | 3½                    |      |
| 704809..... | 43                  | 3½                    |      |
| 704810..... | 55                  | 3½                    |      |
| 704811..... | 24                  | 5                     |      |
| 704812..... | 31                  | 5                     |      |
| 704813..... | 37                  | 5                     |      |
| 704814..... | 43                  | 5                     |      |
| 704815..... | 55                  | 5                     |      |

Quotations made on special sizes upon application.

### METAL END TUBES

Dustproof containers for cloth or paper drawings. Made of heavy cardboard, with telescoping cap. Metal ends clinched to cardboard. Covered with glazed green paper.

|                                            | EACH | DOZEN |
|--------------------------------------------|------|-------|
| 704816 Metal End Tubes, 31 x 3 inches..... |      |       |
| 704817 Metal End Tubes, 37 x 3 inches..... |      |       |
| 704818 Metal End Tubes, 43 x 3 inches..... |      |       |

### ROLL PAPER DISPENSER



704819

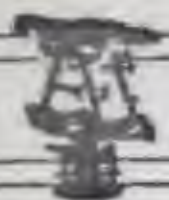
A light-proof container for storing and dispensing tracing papers or any sensitized papers. Provides safe storage without deterioration. Accommodates up to a 50 yard roll. Sheets of desired length can be cut off with a straight, smooth edge.

Built of heavy gauge steel, with welded corners. Inclined roll support keeps roll in front, no matter how small. Furnished with rubber suction feet. Cover is removable, has full length roll hinge, and tempered steel cutting edge. Finished in rich olive green.

|                                                      |      |
|------------------------------------------------------|------|
| 704819 Roll Paper Dispenser for 36" width rolls..... | EACH |
| 704820 Roll Paper Dispenser for 42" width rolls..... |      |

*See Price List Inside Back Cover*





## VANISHING PATCH KITS FOR MENDING TORN TRACINGS



**70491**

along the edges when run through a blue print machine at normal speed . . . it won't deteriorate with age nor discolor . . . and it won't cause tracings to stick to each other in filing cabinets. Besides, the patch is completely invisible on blue prints made from patched tracings.

Complete kit contains 250 1" x 11" strips of Vanishing Patch, 1 thermostatically controlled Patch Welder and 1 felt rubbing pad.

The Patch Welder operates on 110 volt A. C. current. Just plug it in, and within two minutes it is ready to apply the Vanishing Patch.

EACH

**70491** Vanishing Patch Kit . . . . .

**70492** Vanishing Patch Refills, 250 to box. . . . .



Patch Welder in Use

## THERMIUM FILM

Thermium Film is a protective, transparent covering that you can easily apply to your important papers, records, documents, drawings, etc. It protects them from dirt, smudging and tearing, greatly prolonging their life and preventing costly errors. Thermium Film is so clear and transparent that the printed matter covered with this film is actually more readable than before the film was applied. It will not discolor with age nor will the adhesive medium come out at sides.

You simply iron over the sheet with a warm flatiron or one of our specially designed Fotowelders (see page 50) or Patch Welders above.

**70493** Thermium Film, in cut sheets:

SIZE, INCHES

8½ x 11 . . . . .  
11 x 15½ . . . . .  
15½ x 20 . . . . .

Per Doz.      Per 100

**70494** Thermium Film, in rolls:

15½ inches wide . . . . .

100 Ft.      500 Ft.





## CHARTEX DRY-MOUNTING CLOTH

### IRONS ON

Chartex Dry-Mounting Cloth, furnished in either sheets or rolls, enables you to apply a cloth backing to your maps, charts, blueprints, or other papers without any elaborate equipment.

When mounted on Chartex, the map or print is reinforced against tearing, will not dry out or become brittle, but will remain pliable over an indefinite period of years.

Just place a sheet of Chartex on the back of the subject to be mounted, pass a heated flatiron or Fotowelder over the Chartex and your sheet is mounted.

Prints do not change size or curl when mounted with Chartex.



**70501 Chartex Dry-Mounting Cloth**

25 Ft. 50 Ft. 100 Ft.

36 inches

**70502 Chartex Dry-Mounting Cloth—Sheets**

12 SHEETS 100 SHEETS

9" x 12"

11" x 14"

12" x 18"

18" x 24"

## FOTOFLAT DRY MOUNTING PAPER

Fotoflat is used for the same purposes as Chartex; but being paper it is less costly. It can also be used to hold prints back to back.

**70503 Fotoflat Dry Mounting Paper**

PER ROLL

16 inches wide, 100 ft. rolls

**70504 Fotoflat Dry Mounting Paper**

12 SHEETS PER GROSS

Sheet Sizes:

8 x 10"

11 x 14"

14 x 17"

16 x 20"

## FOTOWELDERS

Used to iron on Chartex, Fotoflat and Thermium Film. Made in three sizes, they are equipped with accurate thermostatic controls adjusted to the proper heat for these mediums.

EACH

**70505** Small Welder for tacking, or use with Vanishing Patches

**70506** Medium Welder for small prints

**70507** Large Welder for larger prints



70505

See Price List Inside Back Cover



## TRIMMING SHEARS

EXTRA QUALITY



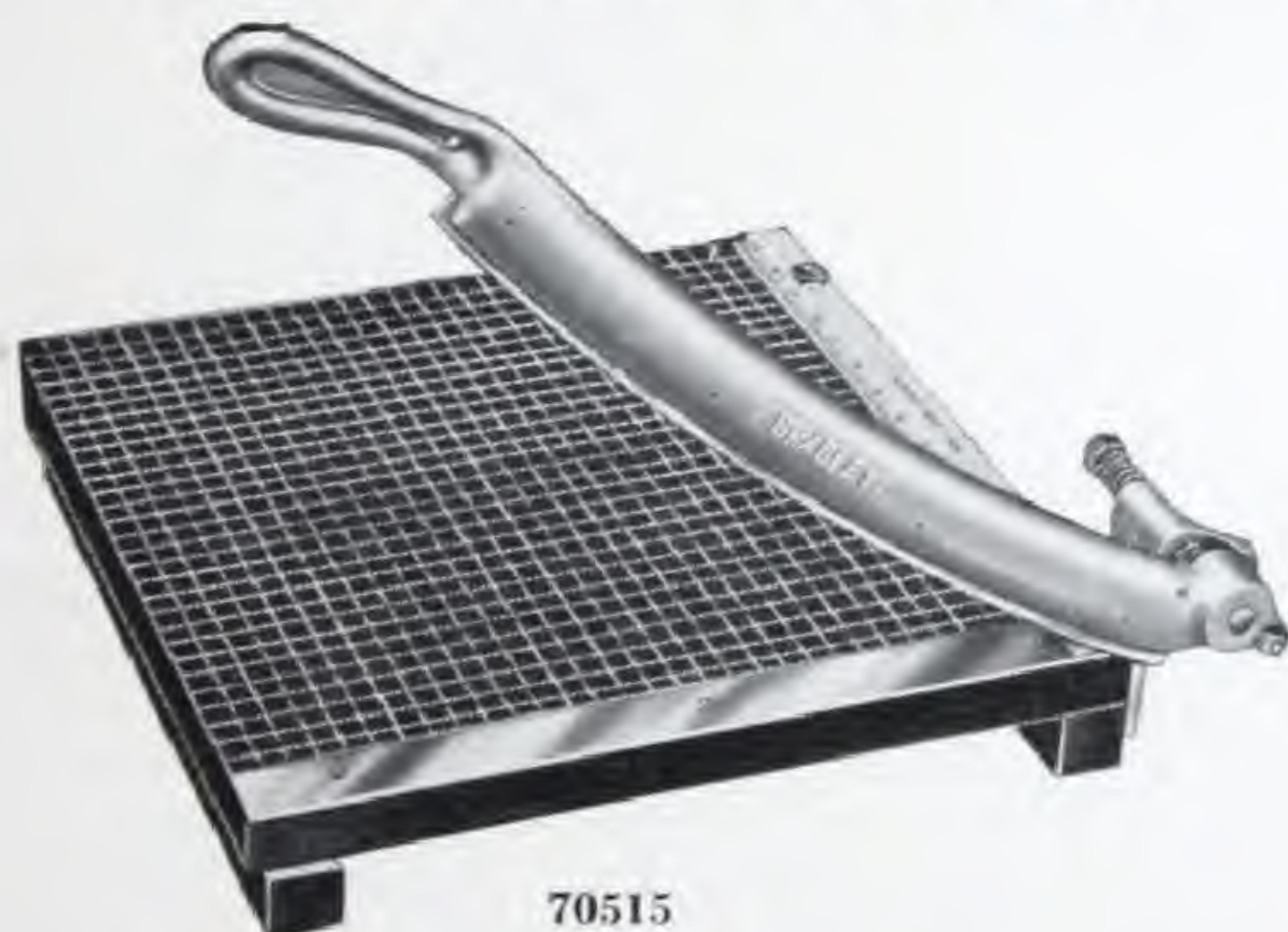
70513

EACH

- 70511 Trimming Shears, extreme length 9 inches overall .....
- 70512 Trimming Shears, extreme length 10 inches overall .....
- 70513 Trimming Shears, extreme length 12 inches overall .....
- 70514 Trimming Shears, extreme length 14 inches overall .....

These Shears are especially adapted for trimming blue prints, drawings, tracings, etc.; made of high grade material, with long, thin blades of perfect temper and true cutting edges.

## CARD AND PAPER CUTTER



70515

For trimming prints or cutting cardboard. These Paper Cutters are built for heavy duty. They have two piece cutter blade, knife easily removed for sharpening. Strong spring keeps handle up, allowing easy adjustment of sheet to be cut.

EACH

- 70515 Paper Cutter, 12" blade, 12 x 12" Table. Ruled in  $\frac{1}{2}$ " squares. Adjustable Ruler Gauge .....
- 70516 Paper Cutter, 15" blade, 15 x 15" Table. Ruled in  $\frac{1}{2}$ " squares. Adjustable Ruler Gauge .....
- 70517 Paper Cutter, 18" Blade, 18 x 18" Table. Ruled in  $\frac{1}{2}$ " squares. Adjustable Ruler Gauge .....
- 70518 Paper Cutter, 24" Blade. Heavy Duty Cutter, 24 x 20" Table. Will cut anything from tissue to heavy cardboard or light metal .....

*See Price List Inside Back Cover*



# FOTO-DRAFT

## CONTACT PRINTERS

### Streamlined

### Compact

### Efficient

For Reproductions of Tracings, Blue Prints, Documents, or any important papers. Either transparent or opaque subjects can be reproduced photographically on various papers or cloths listed on the following pages. They eliminate the necessity of a dark-room, expensive lighting equipment, or focusing of lenses or cameras.

## FOTO-DRAFT

### VACUUM TYPE CONTACT PRINTERS



70521

The cabinet is constructed in two sections for ease of handling. The upper half comprises the light source, printing surface, vacuum cover, and panel board. The lower section contains a drawer for storage of unexposed paper, a compartment for chemical supplies and the vacuum pump and motor. The vacuum cover is provided with a built-in spring and pivot counterbalance which requires no space outside the cabinet and assures finger-tip operation.

Two sets of lights, controlled by either a manual switch or an automatic electric timer, are provided; white for making positive prints and amber for making reflex negatives, or reproducing blueprints and similar low contrast copy. A small pilot light on the panel board lights while exposure is in progress.

The vacuum pump is controlled by a manual switch. Capacity is adequate for rapid operation and release of vacuum is automatic and immediate upon termination of exposure.

**70521 Foto-Draft Vacuum Contact Printer**

Printing Surface 30" x 40" \* $\frac{1}{4}$  HP, 110 Volt, 60 Cycle, 4.2 Amp.

EACH

**70522 Foto-Draft Vacuum Contact Printer**

Printing Surface 40" x 60" \* $\frac{1}{6}$  HP, 110 Volt, 60 Cycle, 4.2 Amp.

\*Be sure to mention current at time of ordering.

*See Price List Inside Back Cover*



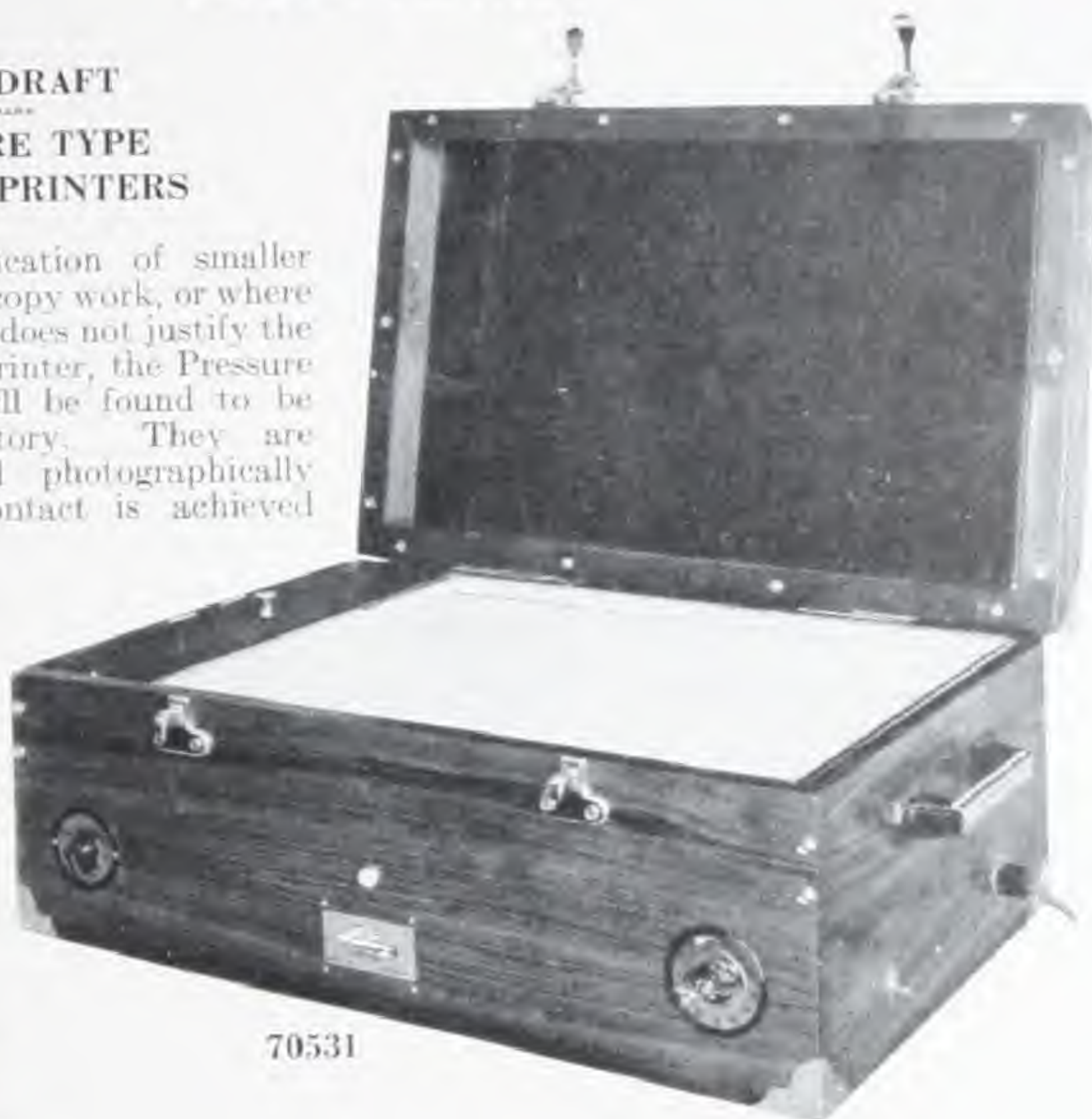
# FOTO-DRAFT

## CONTACT PRINTERS

### FOTO-DRAFT PRESSURE TYPE CONTACT PRINTERS

For the duplication of smaller drawings, for office copy work, or where the volume of work does not justify the cost of a vacuum printer, the Pressure Contact Printer will be found to be eminently satisfactory. They are sturdily built and photographically correct. Good contact is achieved through the use of a spring pressure cover.

Provided with two sets of lights: white for making positive prints, and amber for making reflex negatives, or for reproducing blueprints and similar low contrast copy. The lights are controlled by an accurate mechanical timer or may be manually operated for long exposures.



70531

EACH

- 70531 Foto-Draft Pressure Printer, 10" x 14" copying surface**  
 Foto-Draft Pressure Printer, 14" x 19" copying surface  
 Foto-Draft Pressure Printer, 22" x 24" copying surface

- 70532 Foto-Draft Units**  
 consisting of Machine, electric print dryer, squeegee stand, rubber squeegee,  
 three enameled trays, two amber glass jugs.  
 Complete Units, 10" x 14" copying surface  
 Complete Units, 14" x 19" copying surface  
 Complete Units, 22" x 24" copying surface

- 70533 Foto-Draft Electric Print Dryer, 10" x 15"**  
 Foto-Draft Electric Print Dryer, 16" x 21"  
 Foto-Draft Electric Print Dryer, 23" x 25"

- 70534 Foto-Draft Enameled Squeegee Stand, 15" x 20"**  
 Foto-Draft Enameled Squeegee Stand, 23" x 25"

- 70535 Foto-Draft White Enamel Trays, Acid-resistant 11" x 14"**  
 Foto-Draft White Enamel Trays, Acid-resistant 16" x 20"  
 Foto-Draft White Enamel Trays, Acid-resistant 23" x 28"

See Price List Inside Back Cover





B. K. ELLIOTT COMPANY



# FOTO-DRAFT

## CONTACT PRINTING PHOTOGRAPHIC PAPERS

Elliott's Foto-Draft Papers, Cloths, and Film are contact printing reproduction materials especially designed for making photographic reproductions of pencil tracings, specifications, letters, documents and records of all types. Exposures may be made by the normal or reflex processes on any commercially available contact printing equipment, such as the portable light boxes, vacuum frames, and continuous printing machines.

Foto-Draft materials are sensitized with contrasty *photographic emulsions* which will reproduce the finest detail. They are especially formulated to give the maximum contrasts of blacks and whites, and may be used to reproduce subjects with copy on one or both sides.

Foto-Draft Developing and Fixing Chemicals will properly develop and fix these photographic materials.

## FOTO-DRAFT OFFICE COPY PAPERS

Recommended for making reproductions of records, contracts, legal data, checks and general reproduction work. Processed in normal Mazda light.

### Cut Sheets—In Standard Packages of 100 Sheets\*

|        |                                  | 8½x11 | 9x12 | 11x17 | 12x18 | 17x22 | 24x36 |
|--------|----------------------------------|-------|------|-------|-------|-------|-------|
| 705401 | Extra Thin Foto-Draft Paper      |       |      |       |       |       |       |
| 705402 | Thin Foto-Draft Paper            |       |      |       |       |       |       |
| 705403 | Medium Foto-Draft Paper          |       |      |       |       |       |       |
| 705404 | Thick Foto-Draft Paper           |       |      |       |       |       |       |
| 705405 | Duplex Medium Foto-Draft Paper   |       |      |       |       |       |       |
| 705406 | 100% Rag Medium Foto-Draft Paper |       |      |       |       |       |       |

### Rolls—In Standard Length of 60 Feet\*

|        |                                  | 8½" | 13¾" | 24" | 30" | 36" | 42" |
|--------|----------------------------------|-----|------|-----|-----|-----|-----|
| 705407 | Extra Thin Foto-Draft Paper      |     |      |     |     |     |     |
| 705408 | Thin Foto-Draft Paper            |     |      |     |     |     |     |
| 705409 | Medium Foto-Draft Paper          |     |      |     |     |     |     |
| 705410 | Thick Foto-Draft Paper           |     |      |     |     |     |     |
| 705411 | Duplex Medium Foto-Draft Paper   |     |      |     |     |     |     |
| 705412 | 100% Rag Medium Foto-Draft Paper |     |      |     |     |     |     |

\*Prices on Special Size Sheets and Rolls Furnished on Application

## FOTO-DRAFT VELLUM

Ideal for reproductions of blue prints, drawings, or tracings on paper. Suitable for use in blue print, Ozalid, and B & W machines. Will take erasures and additions or corrections in ink or pencil.

| 705413 Foto-Draft Vellum | In Sheets       |       |      |       |       |       |
|--------------------------|-----------------|-------|------|-------|-------|-------|
|                          | SHEETS          | 8½x11 | 9x12 | 11x17 | 14x17 | 20x24 |
|                          | 12              |       |      |       |       |       |
|                          | 50              |       |      |       |       |       |
|                          | 100             |       |      |       |       |       |
| 705414 Foto-Draft Vellum | In Rolls        |       |      |       |       |       |
|                          | ROLL WIDTH      | 8½"   | 13¾" | 20"   | 30"   | 40"   |
|                          | Per 60 Ft. Roll |       |      |       |       |       |

Note: Prices on other sheet sizes upon request.

See Price List Inside Back Cover





B. K. ELLIOTT COMPANY



# FOTO-DRAFT

TRADE MARK

## FOTO-DRAFT WATERPROOF TRACING CLOTH

This cloth is distinguished by a fast-drying, waterproof base. Its surface will tolerate repeated erasures and will readily accept additions or corrections in ink or pencil without destroying the basic fabric.

### 70551 Foto-Draft Waterproof Tracing Cloth

#### In Sheets

| SHEETS | 8½x11 | 9x12 | 11x17 | 14x17 | 20x24 |
|--------|-------|------|-------|-------|-------|
| 12     | ..... |      |       |       |       |
| 50     | ..... |      |       |       |       |
| 100    | ..... |      |       |       |       |

### 70552 Foto-Draft Waterproof Tracing Cloth

#### In Rolls

| ROLL WIDTH      | 8½"   | 13¾" | 20" | 30" | 40" |
|-----------------|-------|------|-----|-----|-----|
| Per 60 Ft. Roll | ..... |      |     |     |     |

## FOTO-DRAFT ACETATE FILM

An Orthochromatic Film, recommended for contact negatives and positives where maximum of detail is essential. Non-inflammable.

### 70553 Foto-Draft Acetate Film

#### In Sheets

| SHEETS | 8½x11 | 9x12 | 11x17 | 14x17 | 20x24 |
|--------|-------|------|-------|-------|-------|
| 12     | ..... |      |       |       |       |
| 50     | ..... |      |       |       |       |
| 100    | ..... |      |       |       |       |

### 70554 Foto-Draft Acetate Film

#### In Rolls

| ROLL WIDTH:     | 8½"   | 13¾" | 20" | 30" | 40" |
|-----------------|-------|------|-----|-----|-----|
| Per 60 Ft. Roll | ..... |      |     |     |     |

## FOTO-DRAFT DEVELOPER

### 70555 Foto-Draft Developer

DOZ. CANS

PER CAN

Small Size—to make 2 quarts of solution.....

Large Size—to make one gallon of solution.....

## FOTO-DRAFT FIXER

### 70556 Foto-Draft Fixer

DOZ. CANS

PER CAN

Small Size—to make 2 quarts of solution.....

Large Size—to make 1 gallon of solution.....

See Price List Inside Back Cover





**"PRECISE"**

TRADE MARK

**PROFILE AND CROSS SECTION PAPERS AND CLOTHS**



Our "PRECISE" Profile and Cross Section Cloths and Papers, in sheets and continuous rolls, described on pages 57 to 74 inclusive, have met with well merited approval and command a large sale.

Only well-seasoned stock is used, which reduces the possibility of expansion and contraction of the cloth and paper.

We describe these as follows:

**DRAWING PAPER:** The paper possesses great strength, standard thickness, is hard sized and of good erasing quality.

**MOUNTED DRAWING PAPER:** This is same as drawing paper described above, but mounted in the same careful manner as are our "LENOX" papers described on page 12.

**TRACING PAPER:** Very best quality, highgrade stock, possessing unusual strength and good transparency.

**TRACING CLOTH:** All Profile and Cross Section Tracing Cloths are of the well-known "Arkwright" brand—the best American made cloth—which is usually specified on Government inquiries.





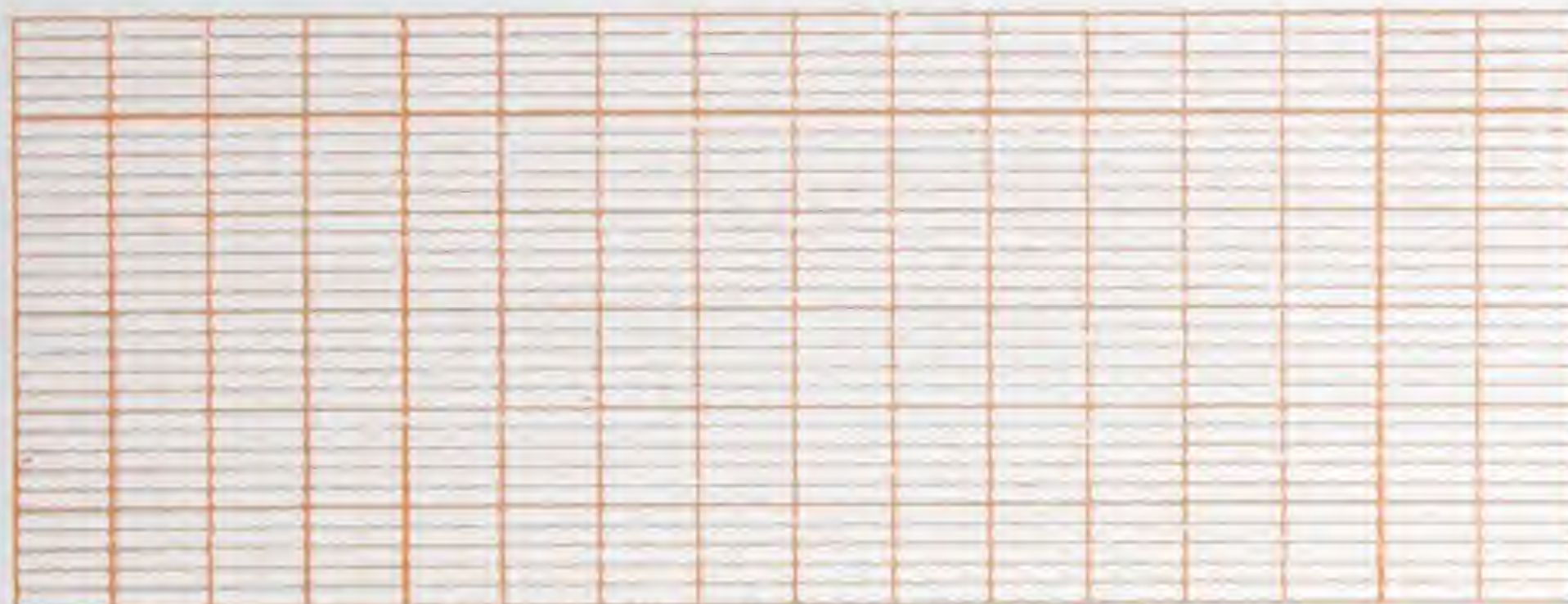
**B. K. ELLIOTT COMPANY**



**"PRECISE"**

THREE MARK

**PROFILE AND CROSS SECTION PAPERS  
AND CLOTHS**



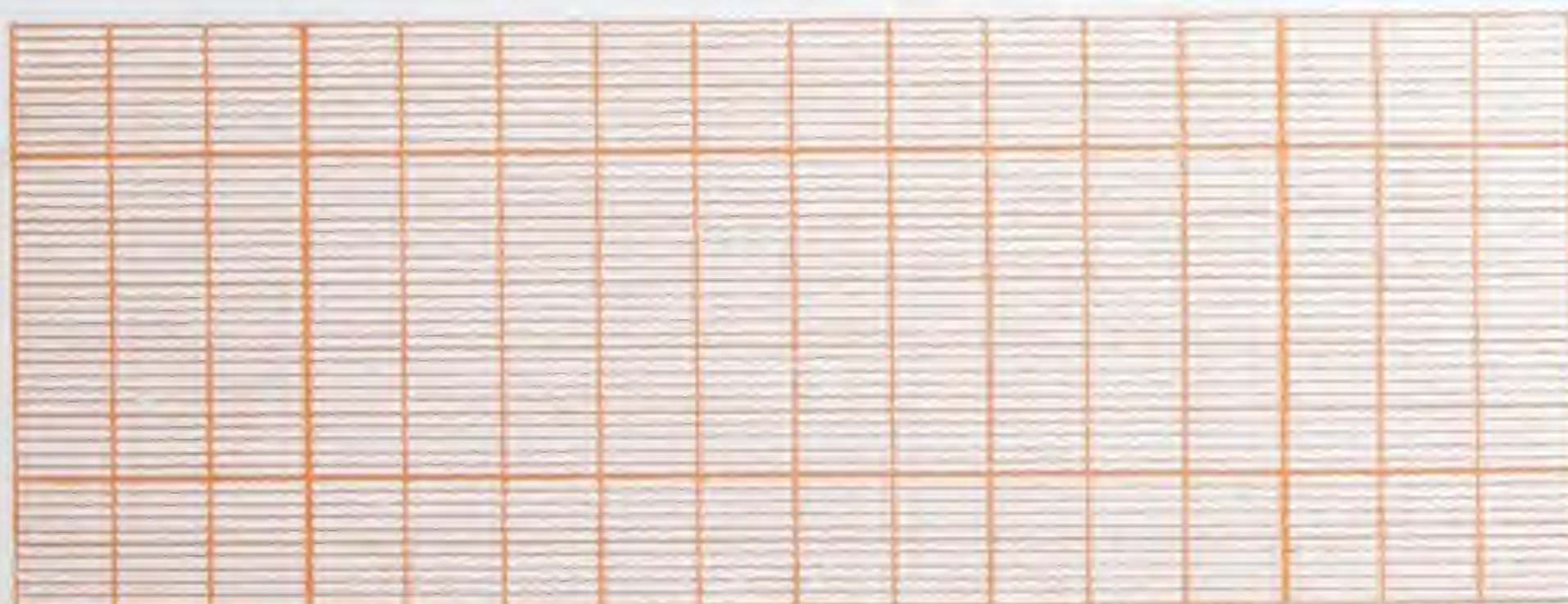
**705702 Plate A, 4 x 20 to one inch**

**PLATE A—CONTINUOUS**

**ENGRAVING**

PER PER  
ROLL YARD

- 705701 Green, 20 in. wide, drawing paper, 50-yard rolls
- 705702 Orange, 20 in. wide, drawing paper, 50-yard rolls
- 705703 Green, 10-in. wide, drawing paper, 50-yard rolls
- 705704 Orange, 10 in. wide, drawing paper, 50-yard rolls
- 705705 Green, 20 in. wide, mounted on muslin, 20-yd. rolls
- 705706 Orange, 20 in. wide, mounted on muslin 20-yd. rolls
- 705707 Orange, 20-in. wide, tracing paper, 50-yd. rolls
- 705708 Orange, 10 in. wide, tracing paper, 50-yd. rolls
- 705709 Orange, 20 in. wide, tracing cloth, 20-yd. rolls



**705711 Plate B, 4 x 30 to one inch**

**PLATE B—CONTINUOUS**

**ENGRAVING**

PER PER  
ROLL YARD

- 705710 Green, 20 in wide, drawing paper, 50-yd. rolls
- 705711 Orange, 20 in. wide, drawing paper, 50-yd. rolls
- 705712 Green, 9 in. wide, drawing paper, 50-yd. rolls
- 705713 Orange, 9 in. wide, drawing paper, 50-yd. rolls
- 705714 Green, 20 in. wide, mounted on muslin, 20-yd. rolls
- 705715 Orange, 20 in. wide, mounted on muslin, 20-yd. rolls
- 705716 Orange, 20 in. wide, tracing paper, 50-yd. rolls
- 705717 Orange, 9 in. wide, tracing paper, 50-yd. rolls
- 705718 Orange, 20 in. wide, tracing cloth, 20-yd. rolls

*See Price List Inside Back Cover*





**B. K. ELLIOTT COMPANY**



## "PRECISE" PROFILE-PLAN PAPERS AND CLOTHS

Width of paper 22 in.



Our Profile-Plan Papers and Cloths have the ruling along the lower half of the paper, the upper half being blank, which provides space for necessary memoranda, sketches of cuts, fills, etc.



Plate A. 4 x 20 to one inch

### PRECISE PROFILE-PLAN PAPERS AND CLOTHS

PER PER  
ROLL YARD

- 70581 Green, engraving 10" wide, Drawing paper, 50-yd. roll
- 70582 Orange, engraving 10" wide, Drawing paper, 50-yd. roll
- 70583 Orange, engraving 10" wide, Tracing paper, 50-yd. roll
- 70584 Orange, engraving 10" wide, Tracing cloth, 20-yd. roll



Plate B. 4 x 30 to one inch

### PRECISE PROFILE-PLAN PAPERS AND CLOTHS

PER PER  
ROLL YARD

- 70585 Green, engraving 9" wide, Drawing paper, 50-yd. roll
- 70586 Orange, engraving 9" wide, Drawing paper, 50-yd. roll
- 70587 Orange, engraving 9" wide, Tracing paper, 50-yd. roll
- 70588 Orange, engraving 9" wide, Tracing cloth, 20-yd. roll

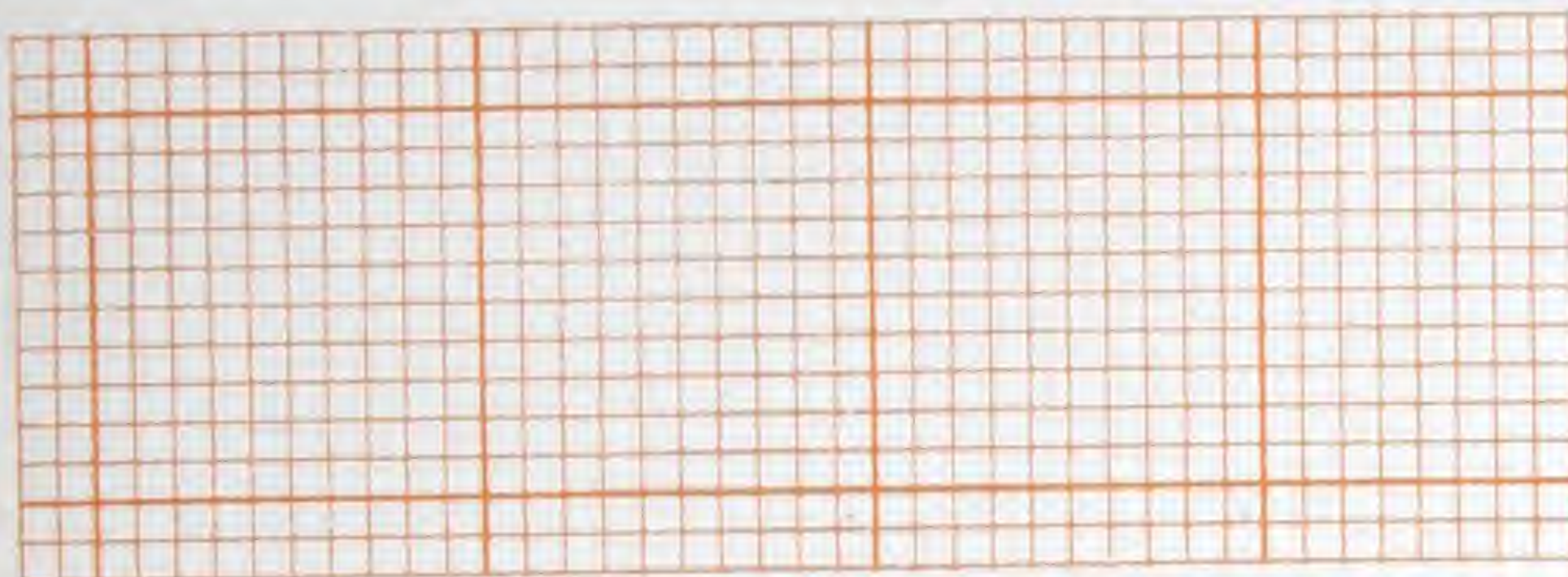
See Price List Inside Back Cover



**"PRECISE"**

TRADE MARK

**CROSS SECTION PAPERS AND CLOTHS**



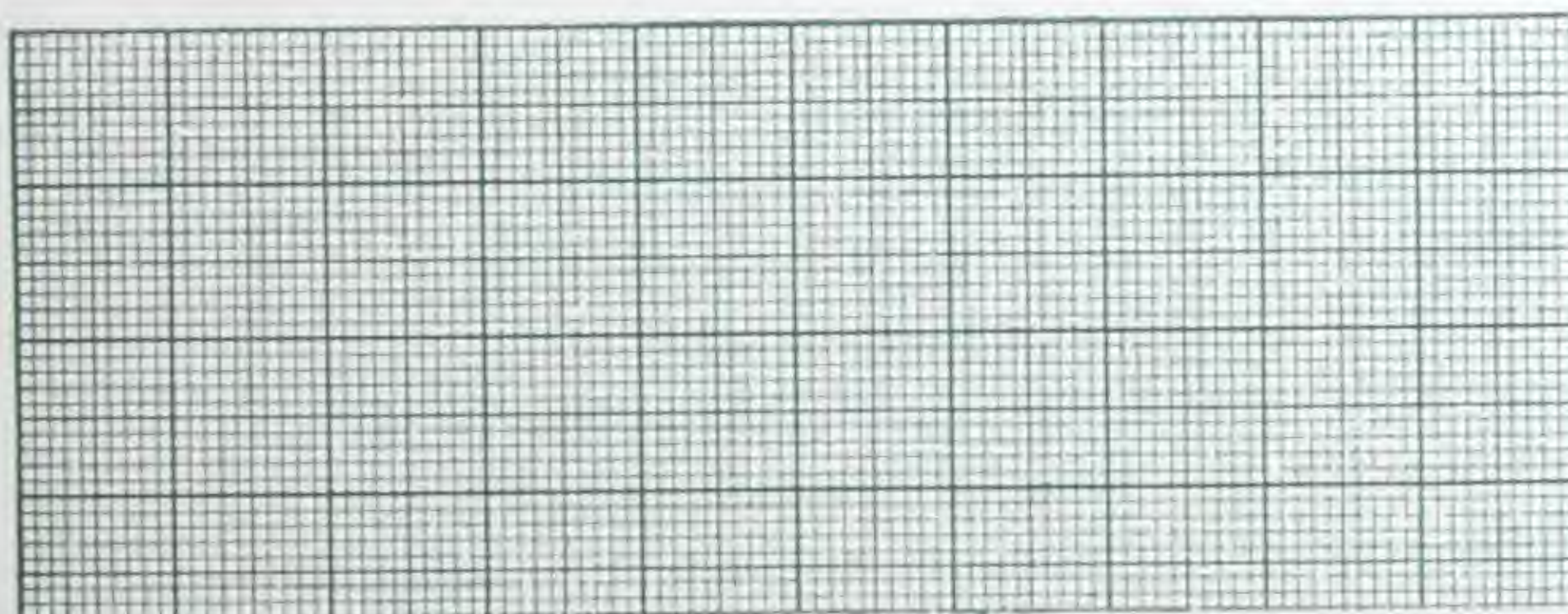
**CONTINUOUS**

10 x 10 to one inch

**ENGRAVING**

PER PER  
ROLL YARD

- 705901 Green, 20 in. wide, drawing paper, 50-yd. rolls .....
- 705902 Orange, 20 in. wide, drawing paper, 50-yd. rolls .....
- 705903 Green, 20 in. wide, mounted on muslin, 20-yd. rolls .....
- 705904 Orange, 20 in. wide, mounted on muslin, 20-yd. rolls .....
- 705905 Orange, 20 in. wide, tracing paper, 50-yd. rolls .....
- 705906 Orange, 20 in. wide, tracing cloth, 20-yd. rolls .....
- 705907 Orange, 10 in. wide, Plain-Cross Section Tracing Cloth, 20-yd.  
rolls .....



**705909 Millimeters**

**ENGRAVING**

PER PER  
ROLL YARD

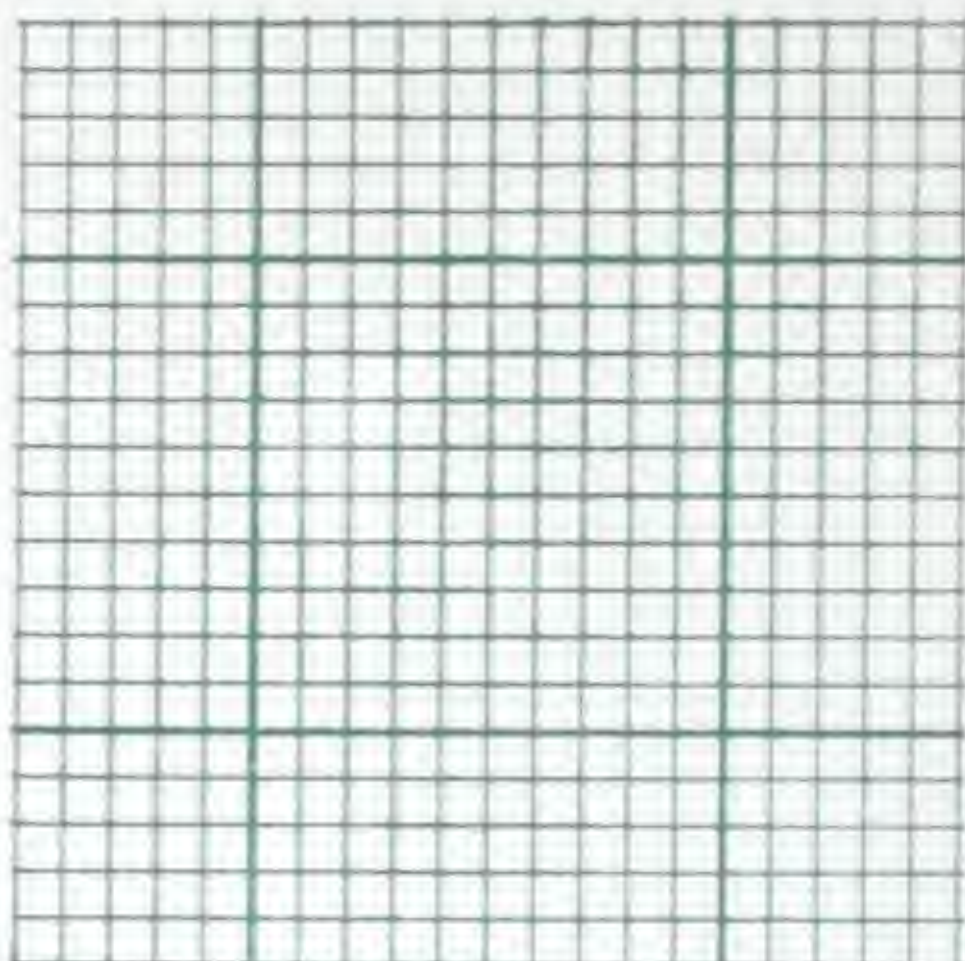
- 705908 Green, 50 cm. wide, drawing paper, 50-yd. rolls .....
- 705909 Orange, 50 cm. wide, drawing paper, 50-yd. rolls .....
- 705910 Orange, 50 cm. wide, tracing paper, 50-yd. rolls .....

Sample book will be sent on application

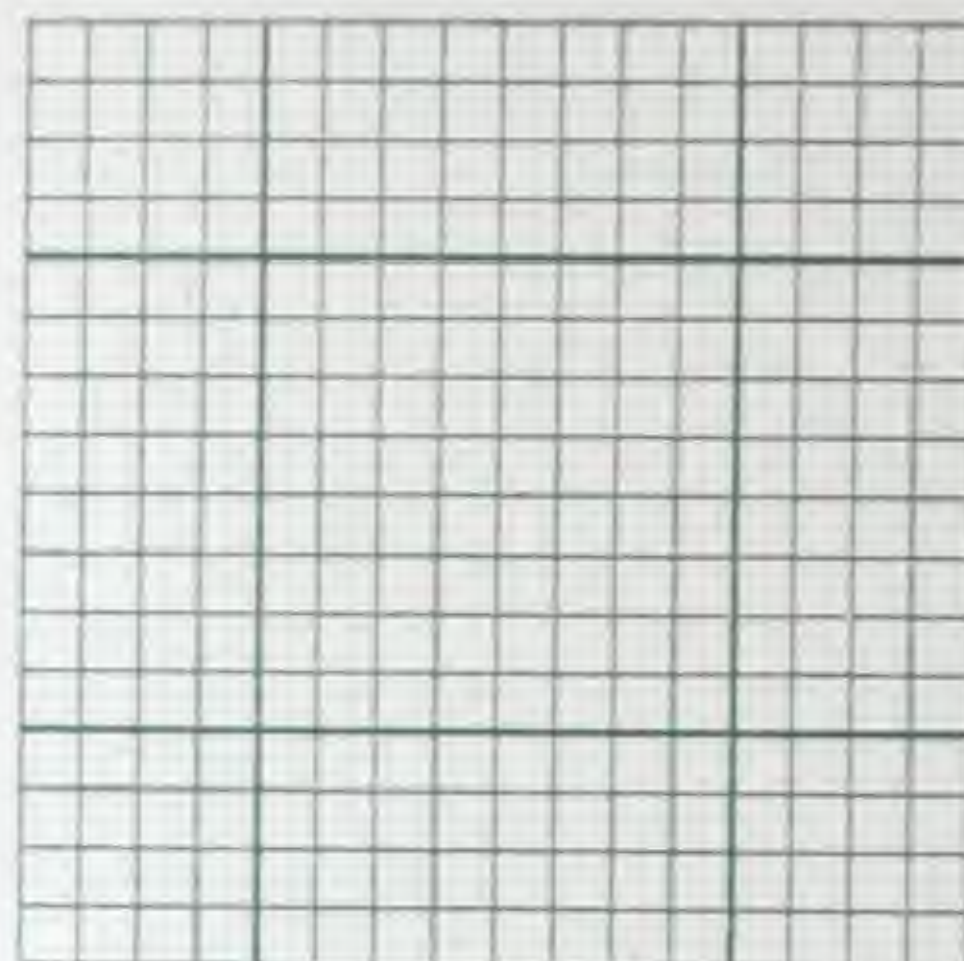
See Price List Inside Back Cover



## “PRECISE” CROSS SECTION PAPER ENGRAVED SHEETS

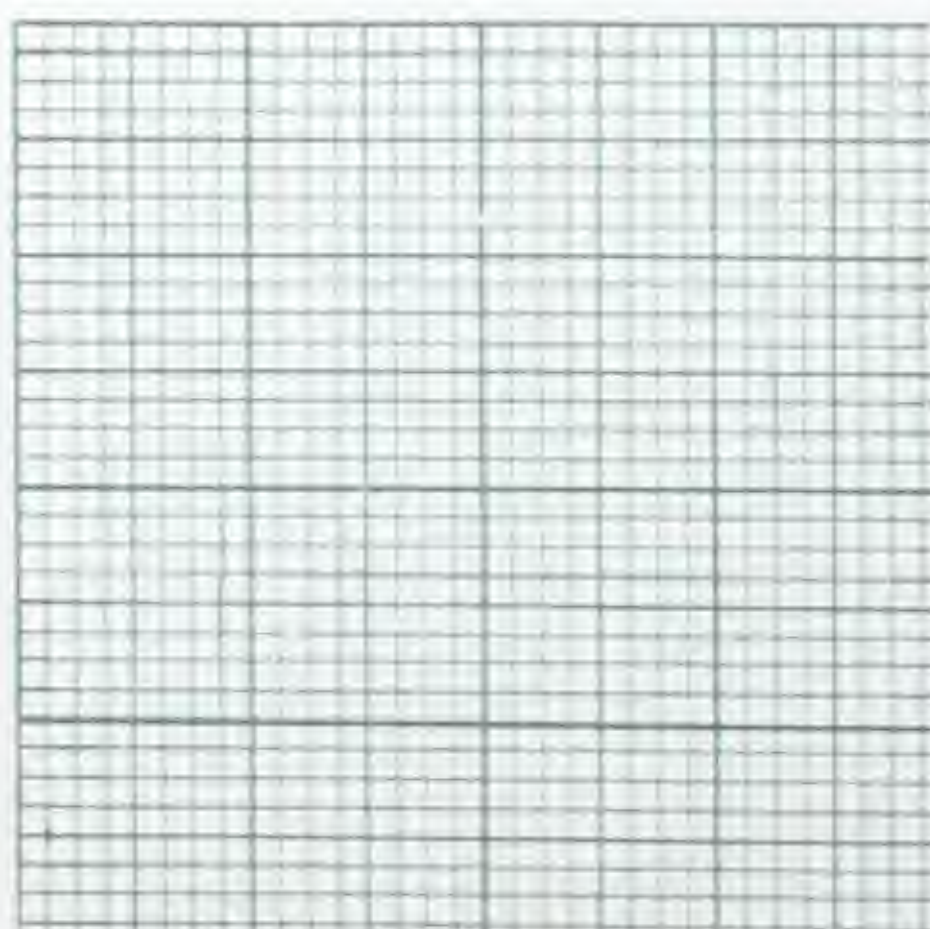


10 x 10 to one inch



8 x 8 to one inch

|       |                                          | ENGRAVING | SHEET<br>SIZE | PER<br>QUIRE |
|-------|------------------------------------------|-----------|---------------|--------------|
| 70601 | Green drawing paper 10 x 10 to the inch  | 16 x 20   | 18 x 23       |              |
| 70602 | Orange drawing paper 10 x 10 to the inch | 16 x 20   | 18 x 23       |              |
| 70603 | Orange tracing paper 10 x 10 to the inch | 16 x 20   | 18 x 23       |              |
| 70604 | Green drawing paper 8 x 8 to the inch    | 16 x 20   | 18 x 23       |              |
| 70605 | Orange tracing paper 8 x 8 to the inch   | 16 x 20   | 18 x 23       |              |



16 x 16 to one inch



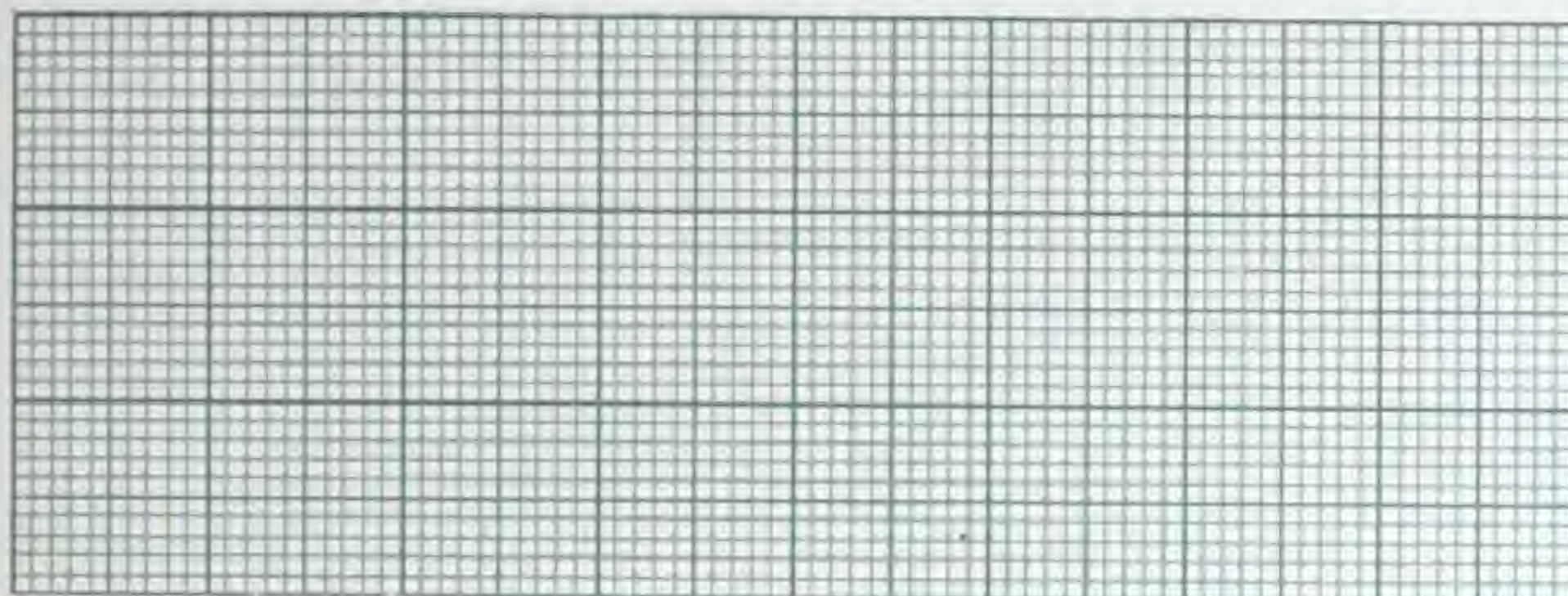
12 x 12 to one inch

|       |                                          | ENGRAVING | SHEET<br>SIZE | PER<br>QUIRE |
|-------|------------------------------------------|-----------|---------------|--------------|
| 70606 | Green drawing paper 16 x 16 to the inch  | 16 x 20   | 18 x 23       |              |
| 70607 | Orange tracing paper 16 x 16 to the inch | 16 x 20   | 18 x 23       |              |
| 70608 | Green drawing paper 12 x 12 to the inch  | 16 x 20   | 18 x 23       |              |
| 70609 | Orange tracing paper 12 x 12 to the inch | 16 x 20   | 18 x 23       |              |

*See Price List Inside Back Cover*



## CROSS SECTION PAPER IN SHEETS



70614

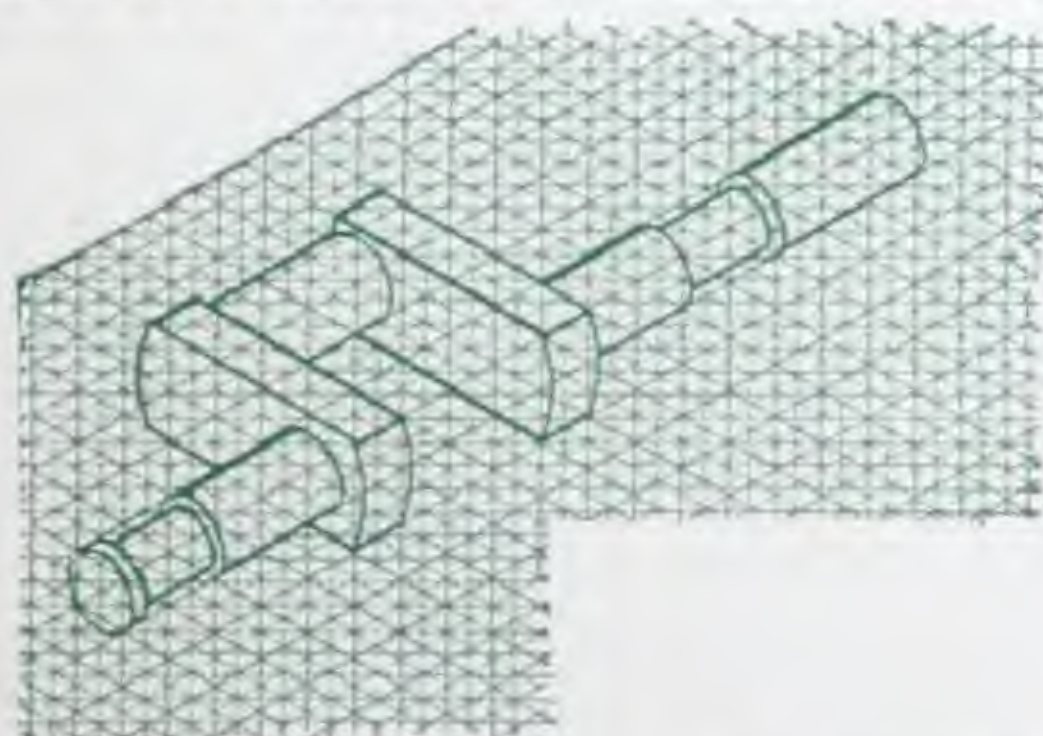
20 x 20 to the inch—fifth line heavy

|       |                                               | COLOR  | PER<br>100 | PER<br>QUIRE |
|-------|-----------------------------------------------|--------|------------|--------------|
| 70611 | Sheets, engraving, 10 x 15 in., drawing paper | Olive  |            |              |
| 70612 | Sheets, engraving, 10 x 15 in., tracing paper | Olive  |            |              |
| 70613 | Sheets, engraving, 10 x 15 in., tracing paper | Orange |            |              |
| 70614 | Sheets, engraving, 7½ x 10 in., tracing paper | Green  |            |              |
| 70615 | Sheets, engraving, 7½ x 10 in., tracing paper | Orange |            |              |
| 70616 | Sheets, engraving, 7½ x 10 in., drawing paper | Green  |            |              |

Special prices on orders for lots of 500 or more sheets.

Orders of 500 sheets or more can be made on any kind of paper and color without extra charge.

## ISOMETRIC CROSS SECTION PAPER



A drawing on Isometric Paper may be scaled in three main directions, the axis of which are 120° apart, one being vertical, the other being at 30° from the horizontal; all horizontal lines are laid along the 30° line in either direction. A cube becomes a hexagon, and circles ellipses. It is especially adapted for use by machine designers, patent office draftsmen and architects; in fact, there is no branch of mechanical drawing or designing that can not use this paper to a distinct advantage.

|       |                                                          | EACH |
|-------|----------------------------------------------------------|------|
| 70617 | Ruled in green, in pads of 40 sheets, 6 x 9 inches       |      |
| 70618 | Ruled in green, in pads of 40 sheets, 9 x 12 inches      |      |
| 70619 | Ruled in green, in package of 100 sheets, 12 x 18 inches |      |

See Price List Inside Back Cover





## RULED CROSS SECTION PAPERS



10 x 10 to one inch



8 x 8 to one inch

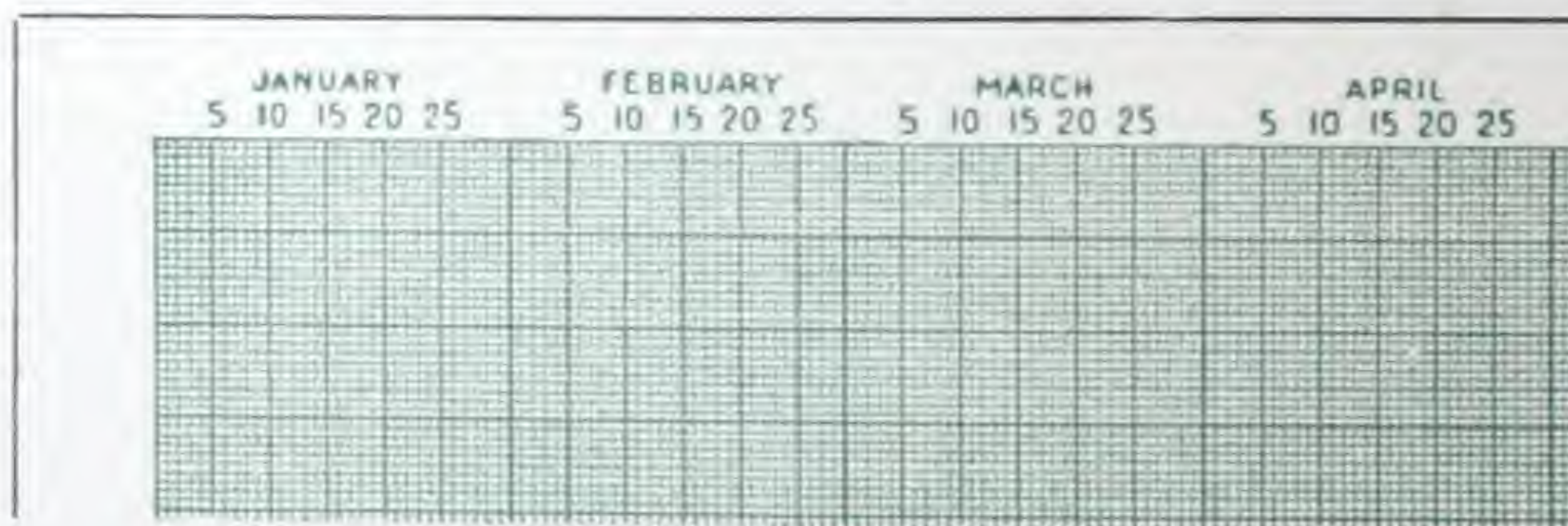
PER QUIRE

- 70621 Sheets, 16 x 21 inches, ruled in blue, 10 x 10 to one inch. ....  
70622 Sheets, 20 x 28 inches, ruled in blue, 10 x 10 to one inch. ....  
70623 Sheets, 16 x 21 inches, ruled in blue, 5 x 5 to one inch. ....  
70624 Sheets, 16 x 21 inches, ruled in blue, 8 x 8 to one inch. ....  
70625 Topographical paper, 16 x 21 inches, ruled in blue and red, 400 feet to one inch. ....

Ruled cross section paper of any desired ruling furnished to order.

## RECORD SHEETS

Statistical Diagrammatic Charts for Progress of Work. One Year by Days



A convenient progress sheet for showing graphically the day by day progress of work, sales or other continuous data. The base line is divided into 366 equal parts, representing the number of days in the long year. Every fifth vertical line is numbered and is slightly heavier, with an extra heavy line for each of the twelve months. Of the horizontal lines, every tenth line is heavy giving 260 equal spaces the short way. Each month is plainly indicated at the top.

|       | ENGRAVING                   | SHEET SIZE | PER 100                 | PER DOZ. |
|-------|-----------------------------|------------|-------------------------|----------|
| 70626 | Drawing Paper, Green. ....  | 7" x 12"   | 8" x 14 $\frac{1}{2}$ " |          |
| 70627 | Tracing Paper, Orange. .... | 7" x 12"   | 8" x 14 $\frac{1}{2}$ " |          |

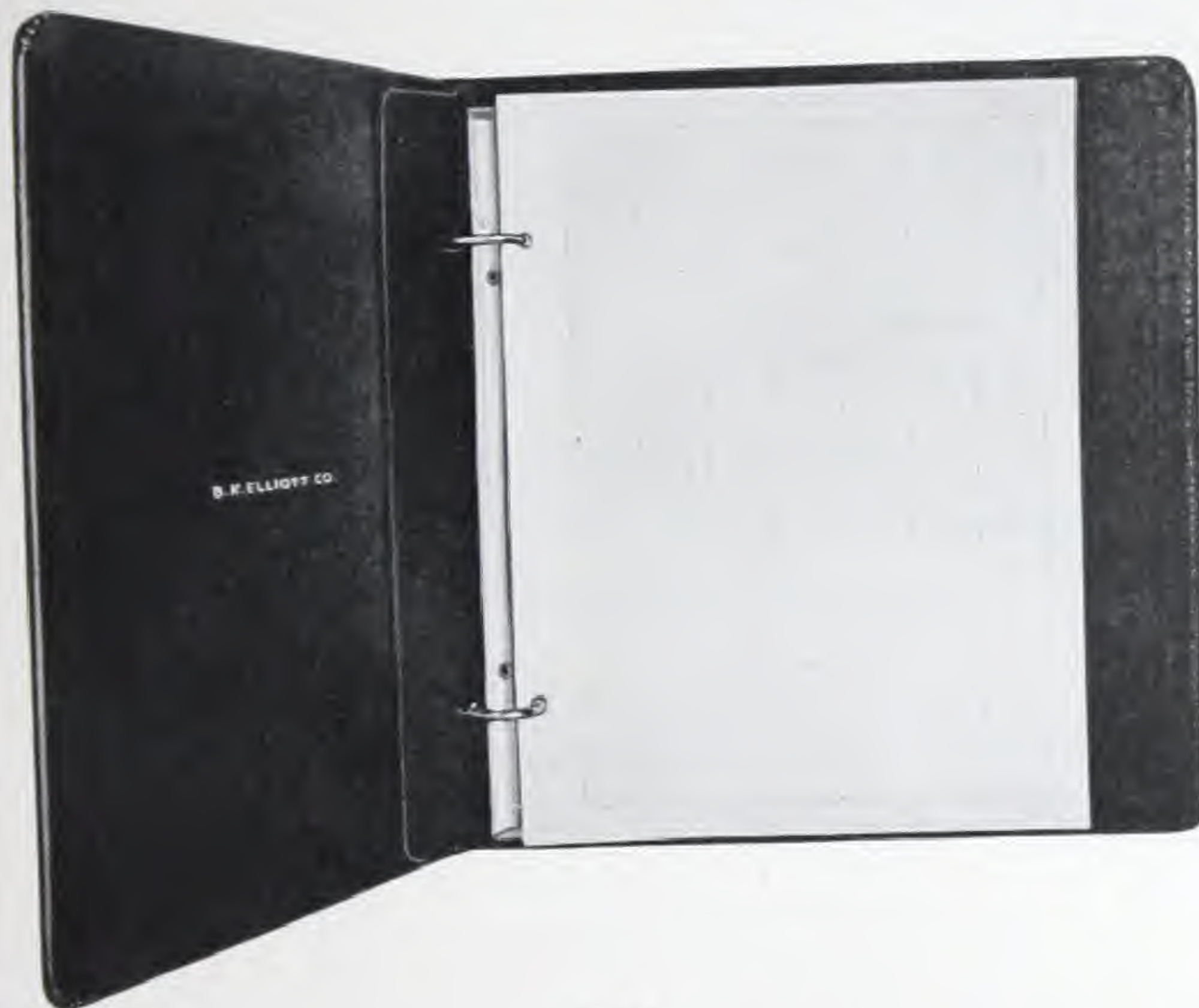
We have a larger sheet, also, same lay-out as above, except every 5th line on the horizontal is heavy, giving 150 spaces on short way, and 366 spaces the long way.

|       | ENGRAVING                   | SHEET SIZE                             | PER 100                  | PER DOZ. |
|-------|-----------------------------|----------------------------------------|--------------------------|----------|
| 70628 | Drawing Paper, Green. ....  | 7 $\frac{1}{2}$ " x 14 $\frac{3}{4}$ " | 11" x 16 $\frac{1}{2}$ " |          |
| 70629 | Tracing Paper, Orange. .... | 7 $\frac{1}{2}$ " x 14 $\frac{3}{4}$ " | 11" x 16 $\frac{1}{2}$ " |          |

See Price List Inside Back Cover



## LOOSE LEAF BINDERS



70631

Loose Leaf Binders are a very satisfactory device for keeping Graph Sheets in order. Permits insertion or removal of individual sheets without removing or disarranging the others.

These Binders are made in two sizes to accommodate the  $8\frac{1}{2}$  x 11 inch and 11 x  $16\frac{1}{2}$  inch Graph Sheets listed on pages 64 to 70. Binder No. 70631 will take the larger sheets when folded.

Furnished with stiff covers, roundcornered, bound in full black levant grained imitation leather, cloth back lining and leatherette side linings. The one inch rings will hold comfortably about 200 sheets of thin paper or 100 sheets of heavy paper.

EACH

**70631** Loose-Leaf Binder for sheets  $8\frac{1}{2}$  x 11 inches, punched on the long edge.

**70632** Loose-Leaf Binder for sheets 11 x  $16\frac{1}{2}$  inches, punched on the short edge

*See Price List Inside Back Cover*





## "PRECISE" ENGRAVED GRAPH SHEETS

TRADE MARK

These sheets are designed for graphic charts, statistics and similar purposes.

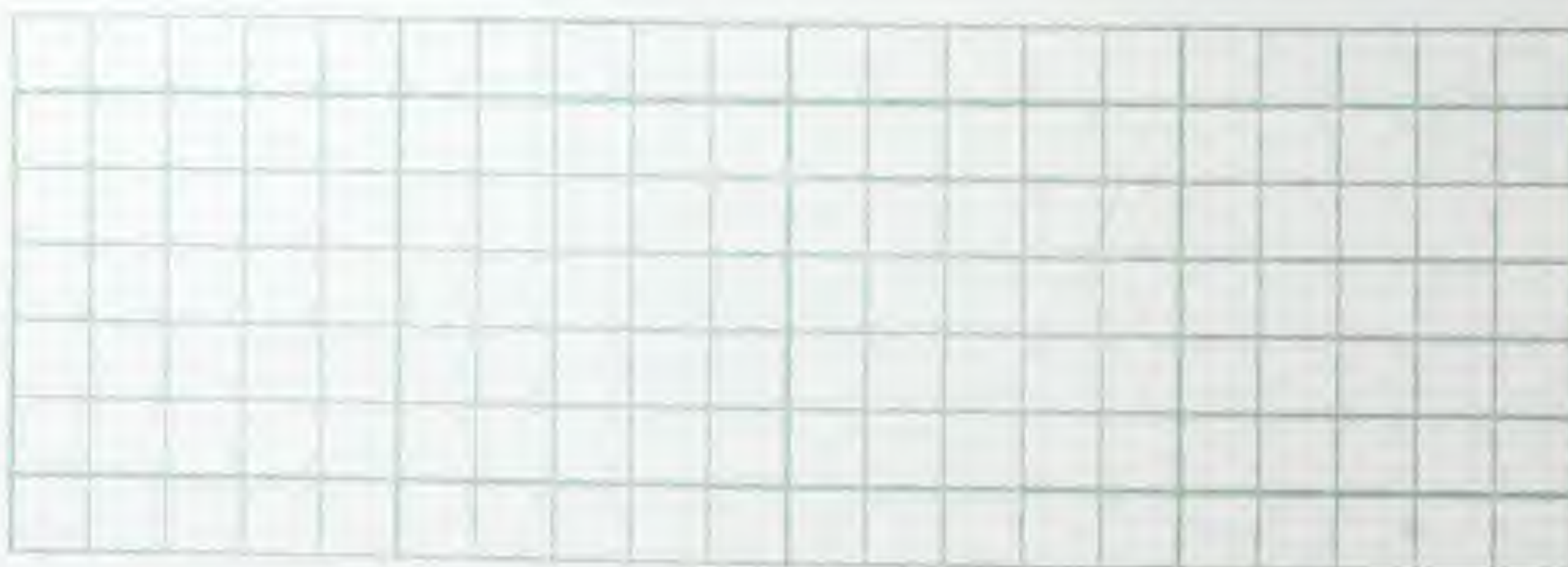
Sheets are carried in two kinds of paper: a strong white drawing paper of medium weight and a fairly thin weight of tracing paper of good strength and erasing quality, which "Blue Prints" easily.

All sheets marked for punch holes to tie in with the B. K. E. Loose-Leaf Binders shown on page 63.



4 x 4 to 1 inch 2nd line accented 4th line heavy

|                                             |                           | SIZE OF<br>SHEET | SIZE OF<br>PLATE | 100<br>SHEETS | 10<br>SHEETS |
|---------------------------------------------|---------------------------|------------------|------------------|---------------|--------------|
| 70641                                       | Drawing Paper, Green..... | 8½ x 11          | 7 x 10           |               |              |
| 70642                                       | Tracing Paper, Green..... | 8½ x 11          | 7 x 10           |               |              |
| Total divisions: short way 28; long way 40. |                           |                  |                  |               |              |



5 x 5 to 1 inch 5th line heavy

|                                             |                           | SIZE OF<br>SHEET | SIZE OF<br>PLATE | 100<br>SHEETS | 10<br>SHEETS |
|---------------------------------------------|---------------------------|------------------|------------------|---------------|--------------|
| 70643                                       | Drawing Paper, Green..... | 8½ x 11          | 7 x 10           |               |              |
| 70644                                       | Tracing Paper, Green..... | 8½ x 11          | 7 x 10           |               |              |
| Total divisions: short way 35; long way 50. |                           |                  |                  |               |              |
| 70645                                       | Drawing Paper, Green..... | 11 x 16½         | 10 x 15          |               |              |
| 70646                                       | Tracing Paper, Green..... | 11 x 16½         | 10 x 15          |               |              |
| Total divisions: short way 50; long way 75  |                           |                  |                  |               |              |

See Price List Inside Back Cover



**"PRECISE" ENGRAVED GRAPH SHEETS**

TRADE MARK



**8 x 8 to 1 inch 4th line accented 8th line heavy**

|                                          |                           | SIZE OF<br>SHEET | SIZE OF<br>PLATE | 100<br>SHEETS | 10<br>SHEETS |
|------------------------------------------|---------------------------|------------------|------------------|---------------|--------------|
| 70651                                    | Drawing Paper, Green..... | 8½ x 11          | 7 x 10           |               |              |
| 70652                                    | Tracing Paper, Green..... | 8½ x 11          | 7 x 10           |               |              |
| Total spaces: short way 56; long way 80. |                           |                  |                  |               |              |
| 70653                                    | Drawing Paper, Green..... | 11 x 16½         | 10 x 15          |               |              |
| 70654                                    | Tracing Paper, Green..... | 11 x 16½         | 10 x 15          |               |              |
| Total spaces: short way 80; long way 120 |                           |                  |                  |               |              |



**10 x 10 to 1 inch 5th line accented 10th line heavy**

|                                            |                           | SIZE OF<br>SHEET | SIZE OF<br>PLATE | 100<br>SHEETS | 10<br>SHEETS |
|--------------------------------------------|---------------------------|------------------|------------------|---------------|--------------|
| 70655                                      | Drawing Paper, Green..... | 8½ x 11          | 7 x 10           |               |              |
| 70656                                      | Tracing Paper, Green..... | 8½ x 11          | 7 x 10           |               |              |
| Total spaces: short way 70; long way 100.  |                           |                  |                  |               |              |
| 70657                                      | Drawing Paper, Green..... | 11 x 16½         | 10 x 15          |               |              |
| 70658                                      | Tracing Paper, Green..... | 11 x 16½         | 10 x 15          |               |              |
| Total spaces: short way 100; long way 150. |                           |                  |                  |               |              |

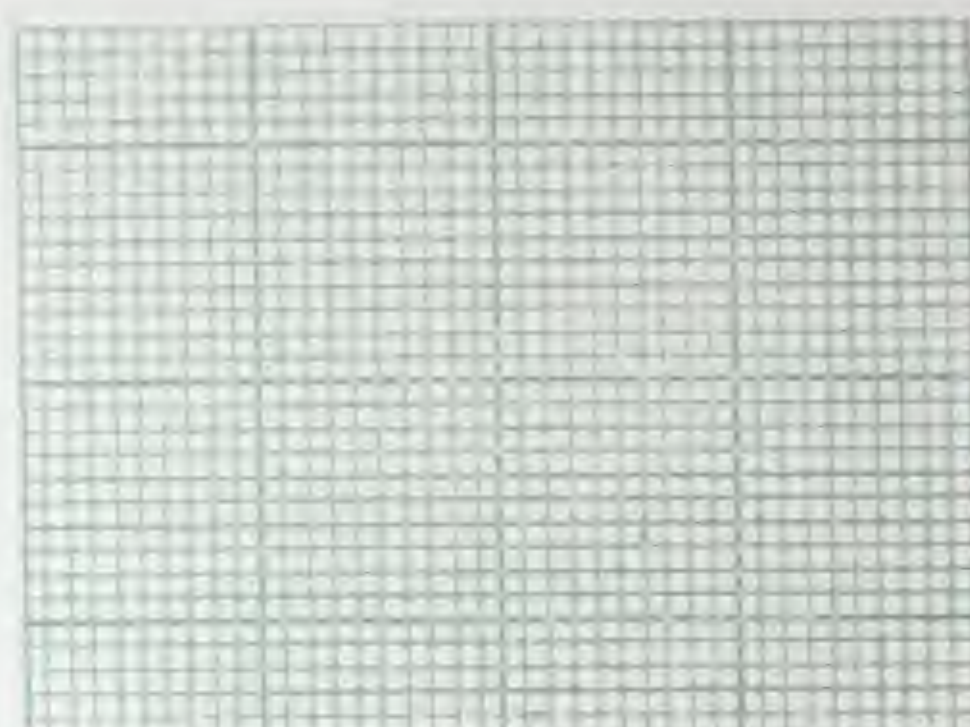
*See Price List Inside Back Cover*



## “PRECISE” ENGRAVED GRAPH SHEETS



10 x 10 to 1 inch 10th line heavy



20 x 20 to 1 inch 1/2" and 1" line heavy

|                                                                             |                           | SIZE OF SHEET | SIZE OF PLATE | 100 SHEETS | 10 SHEETS |
|-----------------------------------------------------------------------------|---------------------------|---------------|---------------|------------|-----------|
| <b>10 x 10 to 1 inch 10th Line Heavy</b>                                    |                           |               |               |            |           |
| 706601                                                                      | Drawing Paper, Green..... | 8 1/2 x 11    | 7 x 10        |            |           |
| 706602                                                                      | Tracing Paper, Green..... | 8 1/2 x 11    | 7 x 10        |            |           |
| Total spaces: short way 70; long way 100.                                   |                           |               |               |            |           |
| 706603                                                                      | Drawing Paper, Green..... | 11 x 16 1/2   | 10 x 15       |            |           |
| 706604                                                                      | Tracing Paper, Green..... | 11 x 16 1/2   | 10 x 15       |            |           |
| Total spaces: short way 100; long way 150.                                  |                           |               |               |            |           |
| <b>12 x 12 to 1 inch; 3rd, 6th, 9th and 12th lines accented.</b>            |                           |               |               |            |           |
| 706605                                                                      | Drawing Paper, Green..... | 8 1/2 x 11    | 7 1/2 x 10    | 100 SHEETS | 12 SHEETS |
| 706606                                                                      | Tracing Paper, Green..... | 8 1/2 x 11    | 7 1/2 x 10    |            |           |
| Total spaces: short way 84; long way 120.                                   |                           |               |               |            |           |
| 706607                                                                      | Drawing Paper, Green..... | 11 x 16 1/2   | 10 x 15       |            |           |
| 706608                                                                      | Tracing Paper, Green..... | 11 x 16 1/2   | 10 x 15       |            |           |
| Total spaces: short way 120; long way 180                                   |                           |               |               |            |           |
| <b>16 x 16 to 1 inch; 4th, 8th, 12th and 16th lines accented.</b>           |                           |               |               |            |           |
| 706609                                                                      | Drawing Paper, Green..... | 8 1/2 x 11    | 7 x 10        | 100 SHEETS | 10 SHEETS |
| 706610                                                                      | Tracing Paper, Green..... | 8 1/2 x 11    | 7 x 10        |            |           |
| Total spaces: short way 112; long way 160.                                  |                           |               |               |            |           |
| 706611                                                                      | Drawing Paper, Green..... | 11 x 16 1/2   | 10 x 15       |            |           |
| 706612                                                                      | Tracing Paper, Green..... | 11 x 16 1/2   | 10 x 15       |            |           |
| Total spaces: short way 160; long way 240.                                  |                           |               |               |            |           |
| <b>20 x 20 to 1 inch 1/4" line slightly accented 1/2" and 1" line heavy</b> |                           |               |               |            |           |
| 706613                                                                      | Drawing Paper, Green..... | 8 1/2 x 11    | 7 1/2 x 10    |            |           |
| 706614                                                                      | Tracing Paper, Green..... | 8 1/2 x 11    | 7 1/2 x 10    |            |           |
| Total spaces: short way 140; long way 200.                                  |                           |               |               |            |           |
| 706615                                                                      | Drawing Paper, Green..... | 11 x 16 1/2   | 10 x 15       |            |           |
| 706616                                                                      | Tracing Paper, Green..... | 11 x 16 1/2   | 10 x 15       |            |           |
| Total spaces: short way 200; long way 300.                                  |                           |               |               |            |           |

See Price List Inside Back Cover





## "PRECISE" ENGRAVED GRAPH SHEETS

TRADE MARK



20 x 20 to inch  $\frac{1}{4}$ " and  $\frac{1}{2}$ " line slightly accented inch line heavy

|                                            |                       | SIZE OF<br>SHEET | SIZE OF<br>PLATE | 100 SHEETS | 10 SHEETS |
|--------------------------------------------|-----------------------|------------------|------------------|------------|-----------|
| 70671                                      | Drawing Paper, Green  | 8½ x 11          | 7½ x 10          |            |           |
| 70672                                      | Tracing Paper, Green. | 8½ x 11          | 7½ x 10          |            |           |
| Total spaces: short way 140; long way 200. |                       |                  |                  |            |           |
| 70673                                      | Drawing Paper, Green  | 11 x 16½         | 10 x 15          |            |           |
| 70674                                      | Tracing Paper, Green. | 11 x 16½         | 10 x 15          |            |           |
| Total spaces: short way 200; long way 300. |                       |                  |                  |            |           |

### MILLIMETER

Sheets ruled according to the metric system. Divided both ways into millimeters. There are approximately 25 divisions to the inch on the millimeter sheet and the spacing is closest or finest of any of the cross-section sheets.



20 x 25 centimeters lightly accented lines at half-centimeter  
Every 10th millimeter or centimeter heavy

|                                            |                       | SIZE OF<br>SHEET | SIZE OF<br>PLATE | 100 SHEETS | 10 SHEETS |
|--------------------------------------------|-----------------------|------------------|------------------|------------|-----------|
| 70675                                      | Drawing Paper, Green  | 8½ x 11          | 8 x 10           |            |           |
| 70676                                      | Tracing Paper, Green. | 8½ x 11          | 8 x 10           |            |           |
| Total spaces: short way 200; long way 250. |                       |                  |                  |            |           |
| 70677                                      | Drawing Paper, Green  | 11 x 16½         | 10 x 15          |            |           |
| 70678                                      | Tracing Paper, Green. | 11 x 16½         | 10 x 15          |            |           |
| Total spaces: short way 250; long way 380. |                       |                  |                  |            |           |

See Price List Inside Back Cover





B. K. ELLIOTT COMPANY



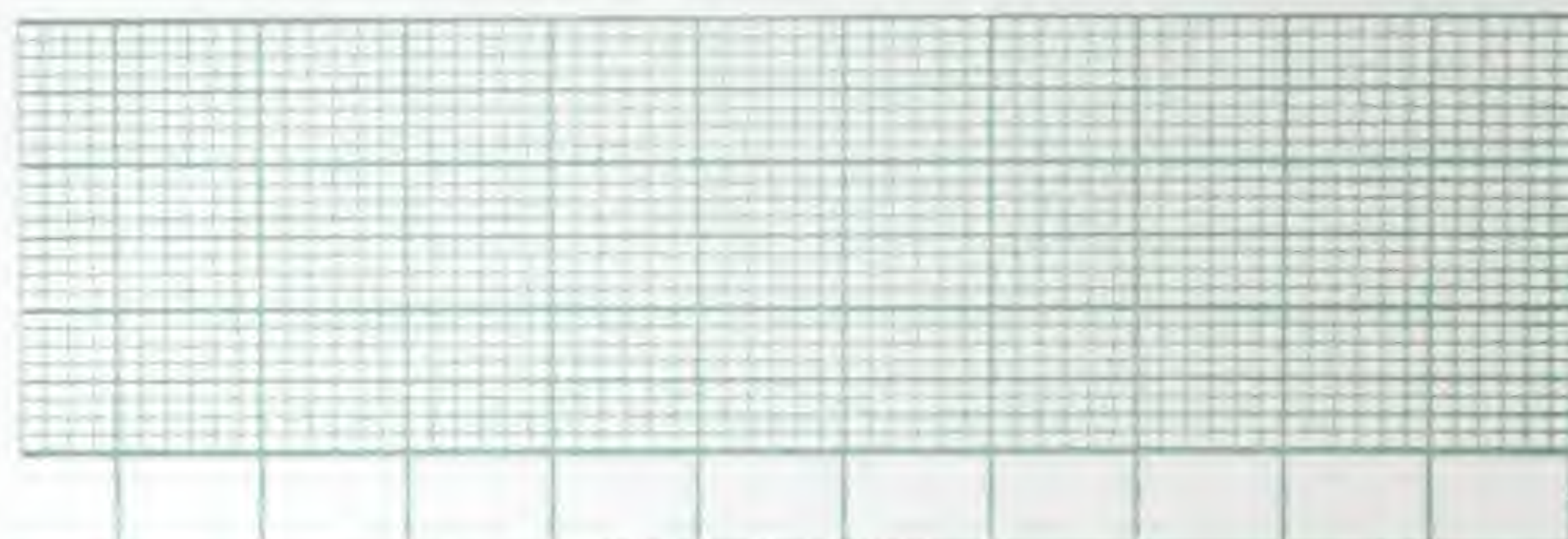
## "PRECISE" ENGRAVED GRAPH SHEETS

TRADE MARK  
DIFFERENT NUMBER OF DIVISIONS PER UNIT EACH WAY

(6 x 8 Divisions per Unit)

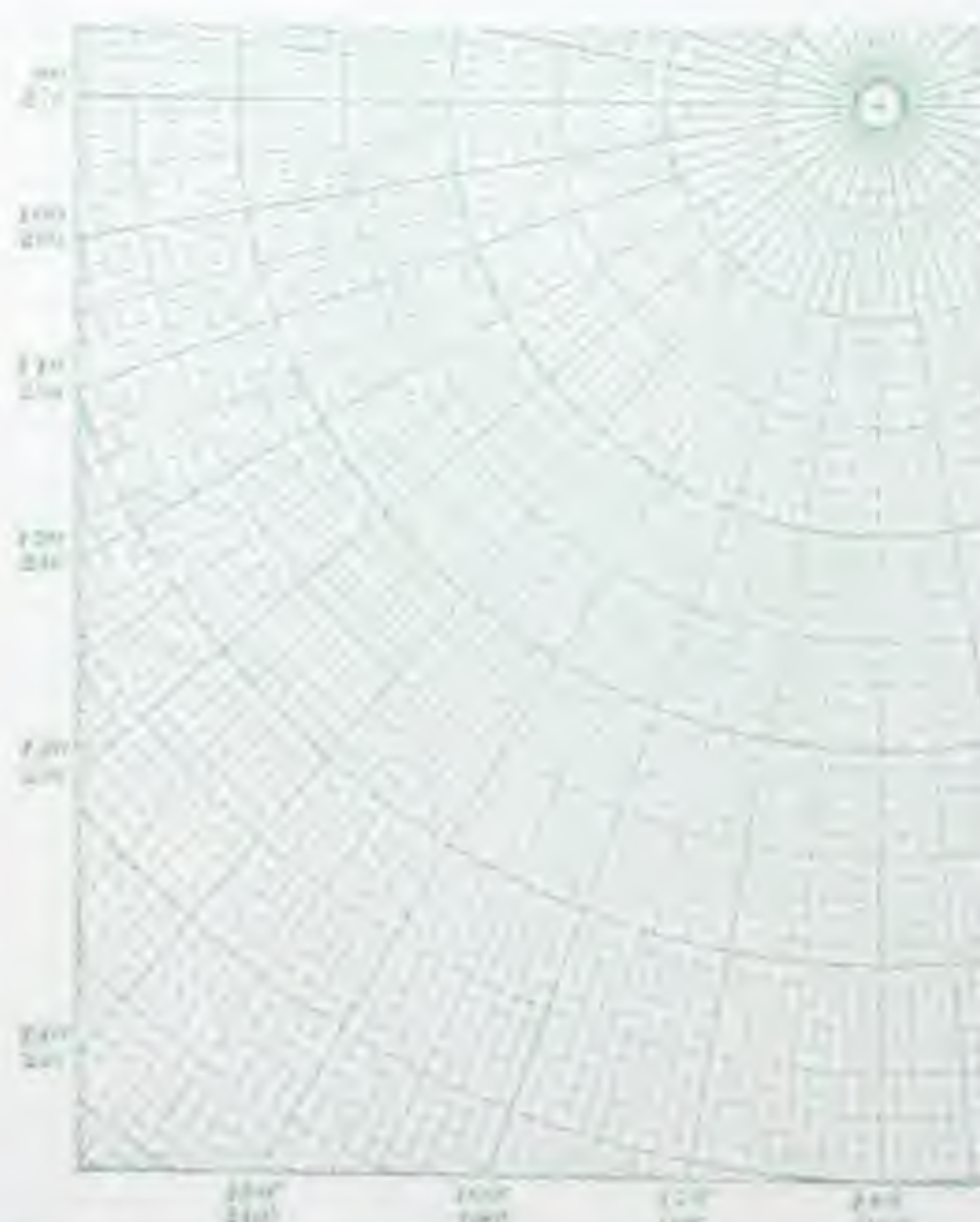
These sheets, divided into 8 spaces vertically per unit, are especially useful for recording prices of stocks and bonds daily or monthly. Can also be adapted to many other production records and progress charts.

This sheet covers 26 weeks by working days or 13 years by months. The long way has a range of 20 to 40 points by 8ths the short way.



Total divisions: short way 160; long way 156.

|       |                           | SIZE OF<br>SHEET | SIZE OF<br>PLATE | 100<br>SHEETS | 10<br>SHEETS |
|-------|---------------------------|------------------|------------------|---------------|--------------|
| 70681 | Drawing Paper, Green..... | 8½ x 11          | 7½ x 9¾          |               |              |
| 70682 | Tracing Paper, Green..... | 8½ x 11          | 7½ x 9¾          |               |              |
| 70683 | Drawing Paper, Green..... | 11 x 16½         | 9¾ x 15          |               |              |
| 70684 | Tracing Paper, Green..... | 11 x 16½         | 9¾ x 15          |               |              |



## POLAR COORDINATE CHART SHEET

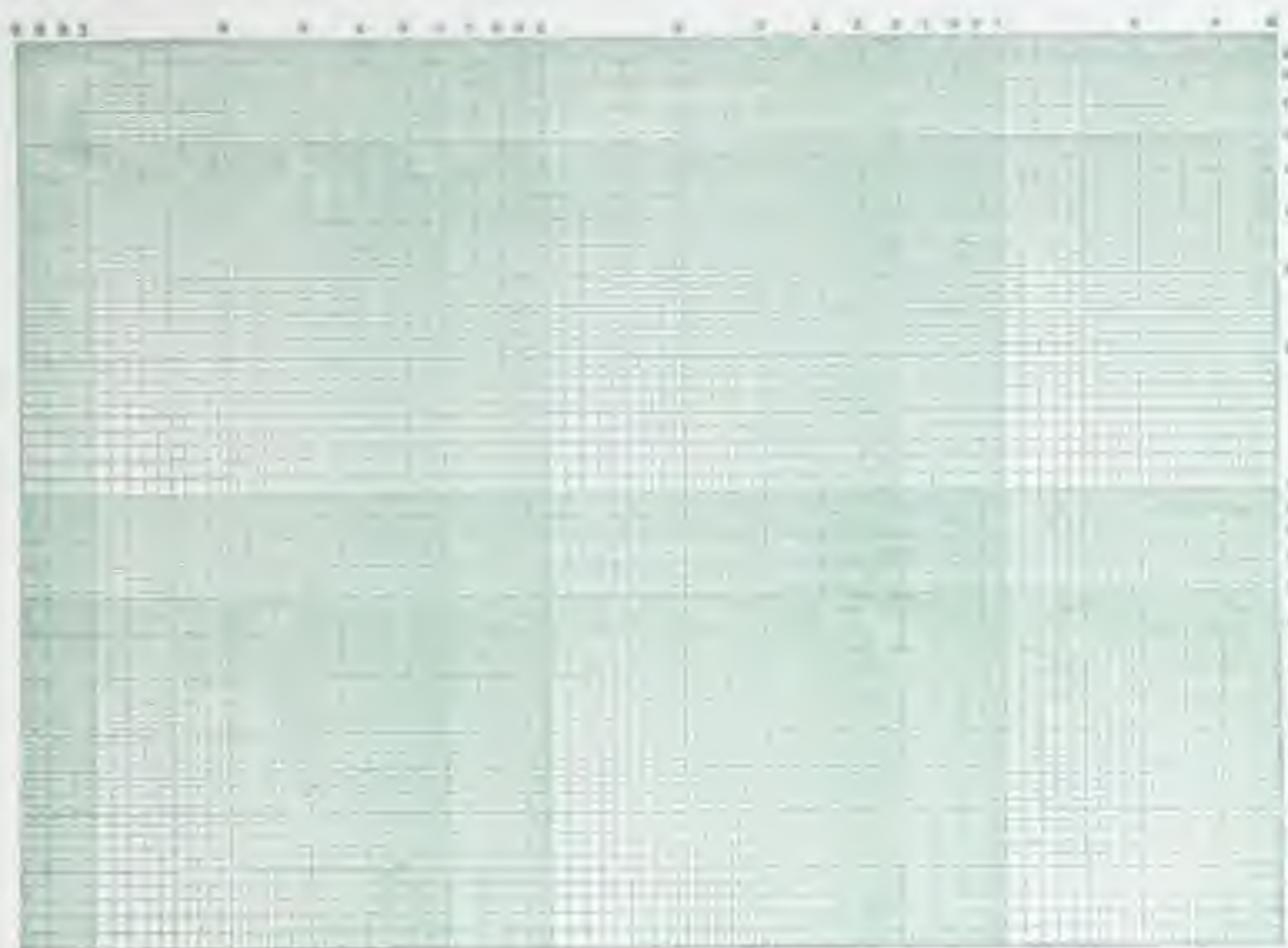
A chart sheet made up of concentric circles, 1/10th of an inch apart, divided into 360° and numbered at 10° intervals both clockwise and anti-clockwise. It is designed for plotting curves by polar coordinates. It can also be used to indicate hourly or part hourly variations, and if each degree line is taken as equivalent to 4 minutes time the complete circle will represent a full 24-hour day. Spherical and hemi-spherical candle power may be plotted on this sheet. Also serves as a paper protractor. For plotting stadia notes either in field or office, polar charts are admirably adapted and greatly speeds up the interpolation of contours and increases the accuracy of scaling.

|       |                           | SIZE OF<br>SHEET | SIZE OF<br>PLATE | 100<br>SHEETS | 10<br>SHEETS |
|-------|---------------------------|------------------|------------------|---------------|--------------|
| 70685 | Drawing Paper, Green..... | 8½ x 11          | 7½ x 10          |               |              |
| 70686 | Tracing Paper, Green..... | 8½ x 11          | 7½ x 10          |               |              |

See Price List Inside Back Cover



**“PRECISE”**  
TRADE MARK  
**LOGARITHMIC CROSS SECTION PAPERS**



Logarithmic Scale both vertically and horizontally.

Sheet size  $8\frac{1}{2} \times 11$  inches, ruled in green.

| NO. OF LOG. UNITS              | SIZE OF UNITS                          | PER 100 |
|--------------------------------|----------------------------------------|---------|
| 706901 1 x 1                   | $7\frac{1}{2}$ " cycle, Tracing Paper  |         |
| 706902 1 x 1                   | $7\frac{1}{2}$ " cycle, Drawing Paper  |         |
| 706903 $2 \times 1\frac{1}{3}$ | 5" cycles, Tracing Paper               |         |
| 706904 $2 \times 1\frac{1}{3}$ | 5" cycles, Drawing Paper               |         |
| 706905 $2\frac{3}{4} \times 2$ | $3\frac{3}{4}$ " cycles, Tracing Paper |         |
| 706906 $2\frac{3}{4} \times 2$ | $3\frac{3}{4}$ " cycles, Drawing Paper |         |
| 706907 3 x 2                   | 3" cycles, Tracing Paper               |         |
| 706908 3 x 2                   | 3" cycles, Drawing Paper               |         |
| 706909 5 x 3                   | 2" cycles, Tracing Paper               |         |
| 706910 5 x 3                   | 2" cycles, Drawing Paper               |         |

**Sheet Sizes  $11 \times 16\frac{1}{2}$  inches**

|                                |                                        |
|--------------------------------|----------------------------------------|
| 706911 $2 \times 1\frac{1}{2}$ | $7\frac{1}{2}$ " cycles, Tracing Paper |
| 706912 $2 \times 1\frac{1}{2}$ | $7\frac{1}{2}$ " cycle, Drawing Paper  |
| 706913 3 x 2                   | 5" cycles, Tracing Paper               |
| 706914 3 x 2                   | 5" cycles, Drawing Paper               |
| 706915 5 x 3                   | 3" cycles, Tracing Paper               |
| 706916 5 x 3                   | 3" cycles, Drawing Paper               |

*See Price List Inside Back Cover*



## “PRECISE” ENGRAVED GRAPH SHEETS

### SEMI-LOGARITHMIC



Logarithmic scale long way of sheet; 20 per inch the short way

Sheet Size  $8\frac{1}{2} \times 11$  inches - Ruled in Green

| NUMBER AND SIZE OF LOG. UNITS                     | PER 100 |
|---------------------------------------------------|---------|
| 707001 3 - 3" cycles, Tracing Paper               |         |
| 707002 3 - 3" cycles, Drawing Paper               |         |
| 707003 4 - $2\frac{1}{4}$ " cycles, Tracing Paper |         |
| 707004 4 - $2\frac{1}{4}$ " cycles, Drawing Paper |         |
| 707005 5 - $1\frac{1}{2}$ " cycles, Tracing Paper |         |
| 707006 5 - $1\frac{1}{2}$ " cycles, Drawing Paper |         |



Logarithmic scale short way of sheet; 20 per inch long way

Sheet Size  $11 \times 16\frac{1}{2}$  inches - Ruled in Green

|                                                   |  |
|---------------------------------------------------|--|
| 707007 1 - 9" cycle, Tracing Paper                |  |
| 707008 1 - 9" cycle, Drawing Paper                |  |
| 707009 2 - $4\frac{1}{2}$ " cycles, Tracing Paper |  |
| 707010 2 - $4\frac{1}{2}$ " cycles, Drawing Paper |  |
| 707011 3 - 3" cycles, Tracing Paper               |  |
| 707012 3 - 3" cycles, Drawing Paper               |  |

*See Price List Inside Back Cover*



**FEDERAL AID SHEETS**

as recommended by  
U. S. Department of Agriculture  
Public Roads Administration  
Federal Works Agency

UPPER HALF PLAIN

SECTION OF  
DIVISION COVERING  
LOWER HALF  
OF SHEET

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**PLAN-PROFILE**

**Plate 1**—2x10 to one inch, Half Ruled  
Sheet Size 23" x 36"—Engraving 10" x 33½"  
Printed in Orange. Two Title Blocks.

PER SHEET    25 SHEETS    100 SHEETS

- 70711** Plate 1, on Bond Tracing Paper . . . . .  
**70712** Plate 1, on No. 70212 Ellco-Vel Tracing Paper  
**70713** Plate 1, on Imperial\* Tracing Cloth . . . . .

**DOUBLE PLAN-PROFILE**

**Plate 2**—2x10 to one inch.  
Two Profiles—5" x 33½" each.  
Two Plan Spaces—5¼" x 33½" each.  
Sheet Size 23" x 36". Printed in Orange  
Two Title Blocks

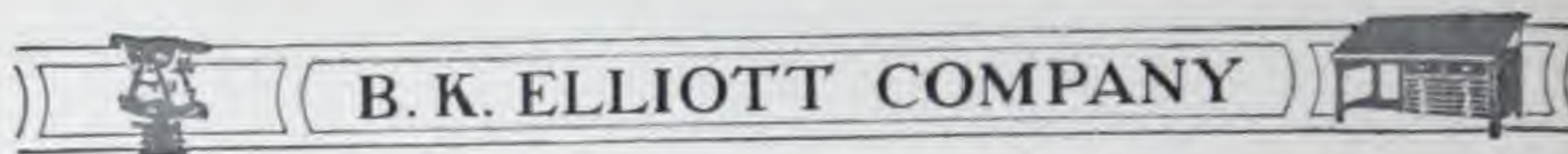
PER SHEET    25 SHEETS    100 SHEETS

- 70714** Plate 2, on Bond Tracing Paper . . . . .  
**70715** Plate 2, on Imperial\* Tracing Cloth . . . . .

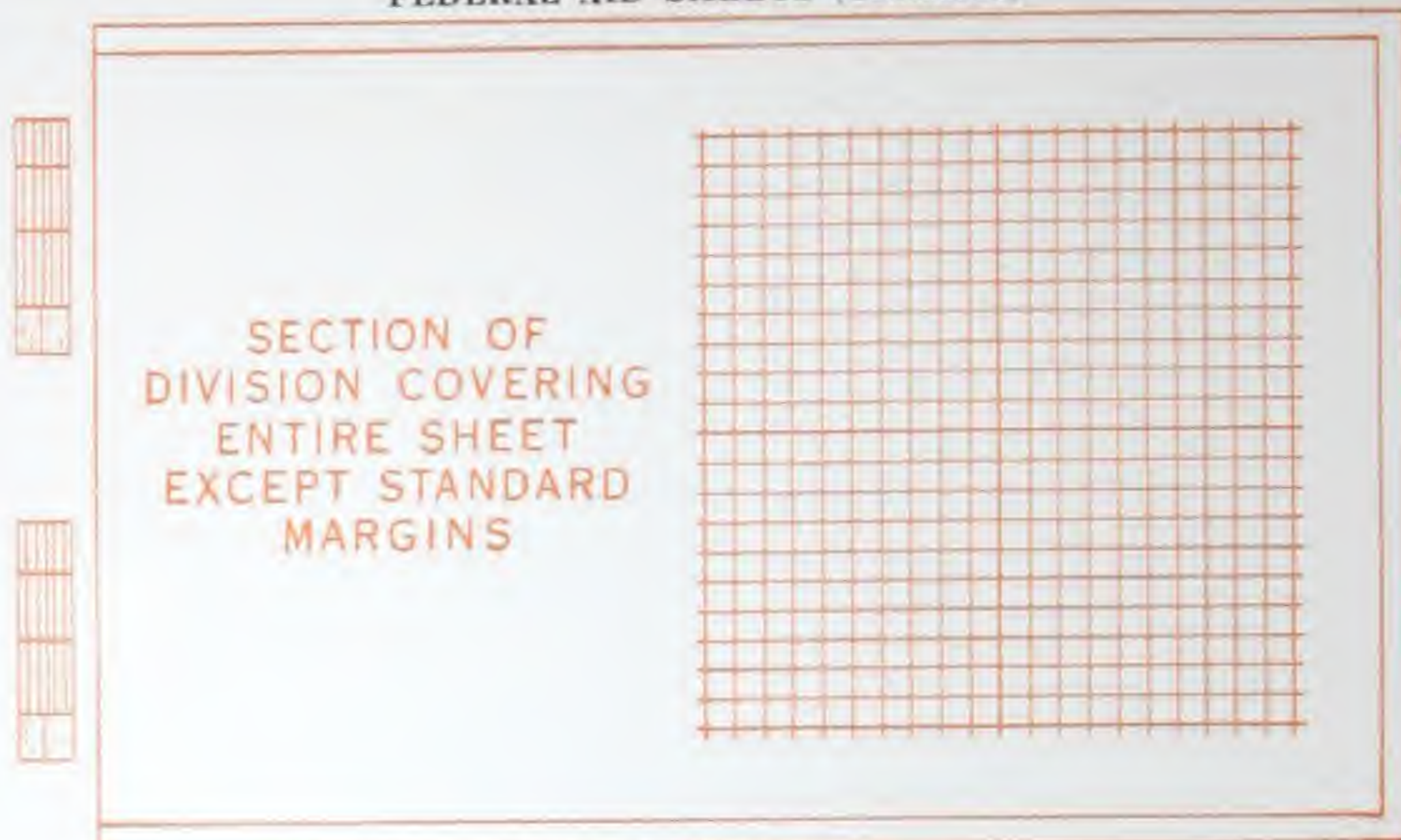
\*Note: Any of the above furnished on Arkwright or Prudence Tracing Cloth on special order.

*See Price List Inside Back Cover*





FEDERAL AID SHEETS (Continued)



CROSS SECTION

Plate 3—10x10 to one inch, Full Ruled  
Sheet Size 23" x 36". Engraving 21" x 33½". Printed in Orange. Two Title Blocks.

PER SHEET 25 SHEETS 100 SHEETS

- 70721 Plate 3, on Bond Tracing Paper.....  
70722 Plate 3, on No. 70212 Ellico-Vel Tracing Paper.....  
70723 Plate 3, on Imperial\* Tracing Cloth.....



PLAN-CROSS SECTION

Plate 4—10x10 to one inch, Half Ruled.  
Sheet Size 23" x 36". Engraving 10" x 33½". Printed in Orange. Two Title Blocks.

PER SHEET 25 SHEETS 100 SHEETS

- 70724 Plate 4, on Bond Tracing Paper.....  
70725 Plate 4, on No. 70212 Ellico-Vel Tracing Paper.....  
70726 Plate 4, on Imperial\* Tracing Cloth.....

\*Note: Any of the above furnished on Arkwright or Prudence Tracing Cloth on special order.

See Price List Inside Back Cover

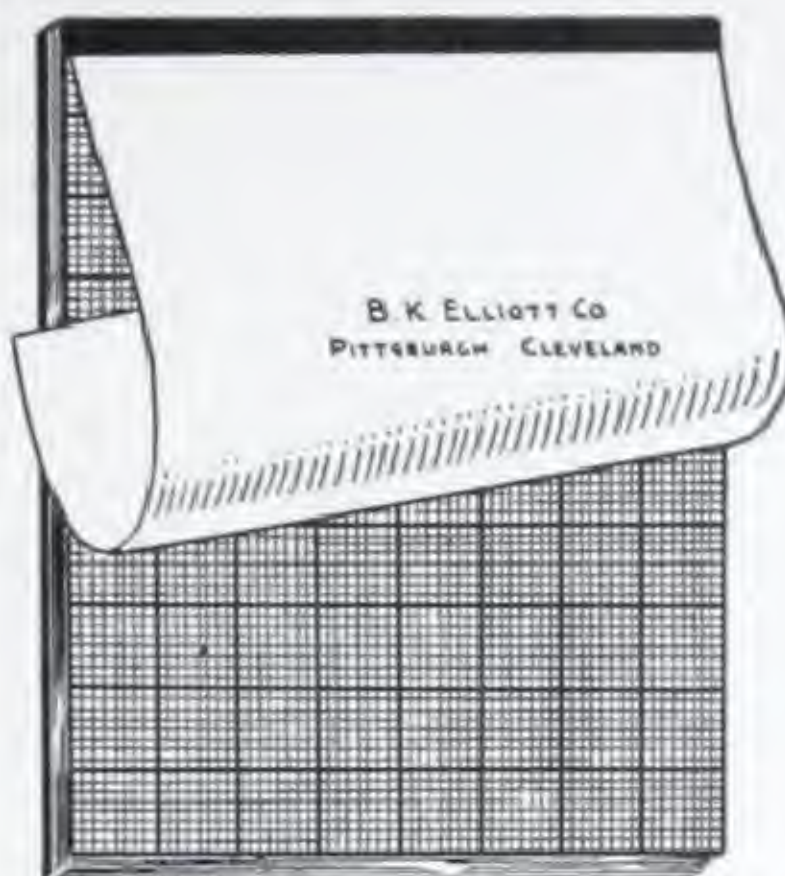


**PADS OF CROSS SECTION PAPER**

Reasonable in Cost—Accurate in Divisions  
Uniform in Color—Most Suitable for  
Technical Sketching

PER PAD

- 70731 8 x 10 inch, 10 x 10 to one inch, ruled in blue, 24 sheets . . . . .
- 70732 8 x 10 inch, 8 x 8 to one inch, ruled in blue, 24 sheets . . . . .
- 70733 8½ x 11 inch, 4 x 4 to one inch, ruled in blue, 100 sheets . . . . .
- 70734 8½ x 11 inch, 4 x 4 to one inch, ruled in blue on Federal Tracing Paper, 50 sheets . . . . .



**TRANSPARENT TRACING PAPER PAD**

A very fine sketching pad made up of a thin, strong, very transparent tracing paper, from which excellent blue prints can be made.

Each pad contains a very fine engraved cross section slip sheet of good heavy stock paper engraved on one side to 8 x 8 divisions, other side 10 x 10 divisions to the inch, the inch lines are heavy.

- 70735 Sketch Pad 8½" x 11"—50 sheets with slip sheet . . . . PER PAD PER DOZ. PADS



**TRIPLEX NON-SLIP DRAFTING BLOCKS**

100 sheets fine tracing paper, padded and perforated.

Triplex Drafting Block, sheet size 8½ x 10 inches. Plate size 8 x 10 inches. Plates ruled inches, ⅛, ¼, ½ size and 10ths. Isometric ⅛ inch scale.

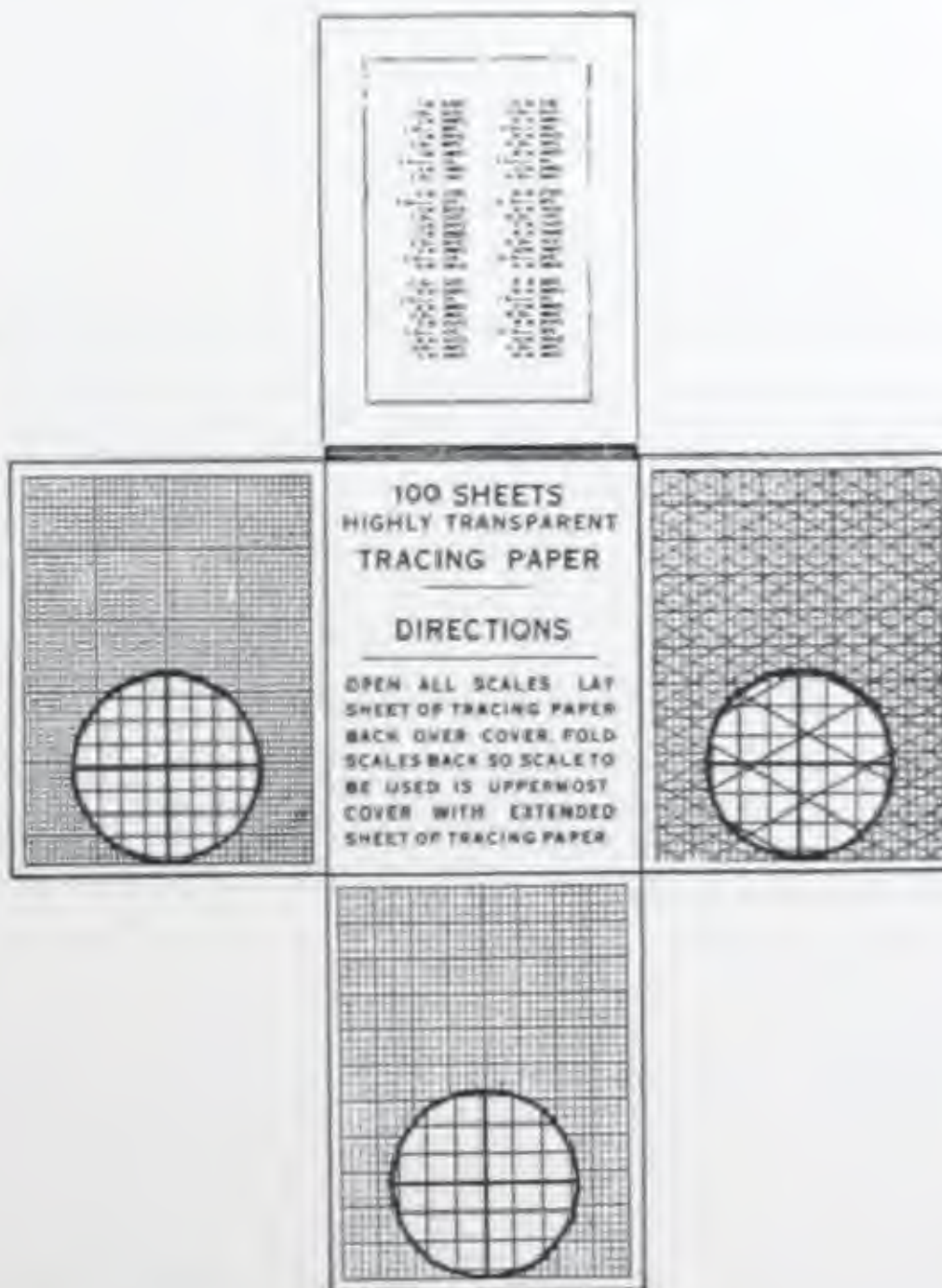
|        |        |        |
|--------|--------|--------|
| SINGLE | CARTON | CARTON |
| PAD    | OF 6   | OF 12  |

70736

Triplex Drafting Block, sheet size 8½ x 18 inches. Plate size 8 x 14 inches. Plates ruled inches, ⅛, ¼, ½ size and 10ths. Isometric ⅛ inch scale.

|        |        |        |
|--------|--------|--------|
| SINGLE | CARTON | CARTON |
| PAD    | OF 6   | OF 12  |

70737



See Price List Inside Back Cover





## QUADRILLE RULED PAPER IN PADS



Inexpensive pads of High-Grade Bond Paper in quadrille ruling. Printed both sides in waterproof ink. Cloth binding at top of pad. Size of pad  $8\frac{1}{2}$  x 11 inches.

|       | EACH                                       | Doz |
|-------|--------------------------------------------|-----|
| 70741 | Quadrille Pad, 50 sheets, 4 x 4 to inch.   |     |
| 70742 | Quadrille Pad, 50 sheets, 5 x 5 to inch.   |     |
| 70743 | Quadrille Pad, 50 sheets, 8 x 8 to inch.   |     |
| 70744 | Quadrille Pad, 50 sheets, 10 x 10 to inch. |     |

## STANDARD AND OTHER CONTRACT DOCUMENTS AMERICAN INSTITUTE OF ARCHITECTS

|                                                                            |                                                                                                                          |           |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------|
| 70745                                                                      |                                                                                                                          | EACH      |
| Agreement and General Conditions in cover.                                 |                                                                                                                          |           |
| General Conditions without Agreement.                                      | (A2)                                                                                                                     |           |
| Agreement without General Conditions.                                      | (A1)                                                                                                                     |           |
| Standard Form of Bond.                                                     | (B1)                                                                                                                     |           |
| Form of Subcontract.                                                       | (C1)                                                                                                                     |           |
| Letter of Acceptance of Subcontractor's Proposal.                          | (D1)                                                                                                                     |           |
| Cover (heavy paper with valuable notes).                                   | (E1)                                                                                                                     |           |
| Complete Set of Above Forms, in cover.                                     |                                                                                                                          |           |
| A. I. A. Short Form for Small Construction Contracts.                      |                                                                                                                          |           |
| Form of Agreement between Owner and Architect on the Percentage Basis.     |                                                                                                                          |           |
| Form of Agreement between Owner and Architect on the Fee Plus Cost System. |                                                                                                                          |           |
| Circular of Information on Fee Plus Cost System (Owner-Architect).         |                                                                                                                          |           |
| Form of Agreement between Owner and Contractor (Cost Plus Fee Basis).      |                                                                                                                          |           |
| Circular of Information on Cost Plus Fee System (Owner-Contractor).        |                                                                                                                          |           |
| Building Agreement Between Contractor and Owner.                           | (691)                                                                                                                    |           |
|                                                                            |                                                                                                                          | EACH Doz. |
| 70746                                                                      | Architects Certificate Book, 100 blanks, good quality paper. A standard certificate book for Architects and Contractors. |           |

See Price List Inside Back Cover



## ENGINEERS' LOOSE LEAF FIELD BOOKS



Our Engineers' Loose Leaf Field Books are designed to meet the requirements of engineers working in the field, enabling them to send any of their notes to the office daily or weekly, and at the same time to continue using the books. They also permit of filing the notes of any particular survey together, and of filing notes of each survey in alphabetical order according to the names of clients.

The covers,  $4\frac{3}{4} \times 7\frac{1}{2}$  inches, are of fifty leaf capacity, have round corners, and are furnished in Black Morocco. The improved mechanism is very light and strong, composed of a narrow metal back with six rings, so arranged that they can be opened by one operation, permitting the leaves to be inserted or removed rapidly. When the book is open the leaves lie perfectly flat, and as the covers are very stiff the book can be held firmly and notes quickly entered and sketches rapidly made. The leaves are of the same high grade paper, with waterproof rulings, as furnished in our regular Engineers' Field Books.

|              |                                                              |      |           |
|--------------|--------------------------------------------------------------|------|-----------|
| <b>70751</b> | Loose-Leaf Cover only, Black Morocco binding.....            | EACH | PER DOZEN |
| <b>70752</b> | Loose Leaves, No. <b>70751</b> ruling, 50 leaves in set..... | SET  | PER DOZEN |
| <b>70753</b> | Loose Leaves, No. <b>70774</b> ruling, 50 leaves in set..... | SET  | PER DOZEN |
| <b>70754</b> | Loose Leaves, No. <b>70793</b> ruling, 50 leaves in set..... | SET  | PER DOZEN |
| <b>70755</b> | Transfer Binder for loose leaves.....                        | EACH | PER DOZEN |

*See Price List Inside Back Cover*



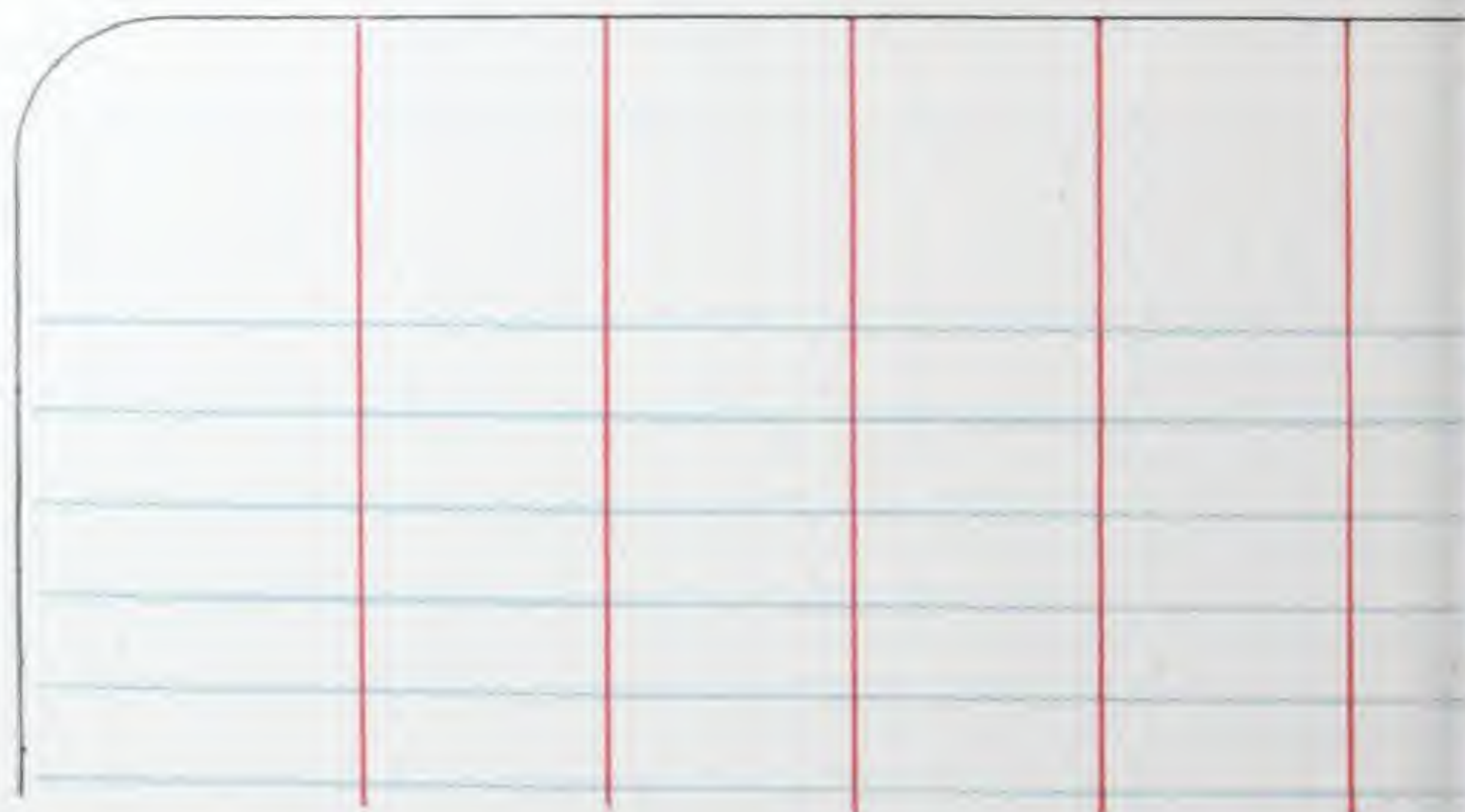
## ENGINEERS

The B. K. Elliott Co. field books are designed and made up to give the best service possible under all conditions. The materials and workmanship used are the best obtainable.

The Rulings and spacings in the various volumes were selected only after careful study and from advice given by many of our Engineering friends.

The tables and information inserted in some of the Volumes are of necessity on account of space condensed and confined as nearly as possible to information most helpful in the field.

**Binding**—Field books are covered with water proof binding—bound with a strong cord stitching having a strong gummed cloth tape back bone—and will not tear from the tough cover board. The back is flexible and book will lay flat when open. Covers may be folded back to back without injury to book and used as a stiff support when making notes in the field.



- |       |               |                                                                         |
|-------|---------------|-------------------------------------------------------------------------|
| 70761 | Elliott's 740 | Field Book, $4\frac{1}{2}"$ x $7\frac{1}{2}"$ , 80 Leaves, Smooth Paper |
| 70762 | Elliott's 741 | Field Book, $4\frac{1}{2}"$ x $7\frac{1}{2}"$ , 60 Leaves, Smooth Paper |

**Field Books of Special Size or Design in Loose**

*See Price List Inside Back Cover*





## ELD BOOKS

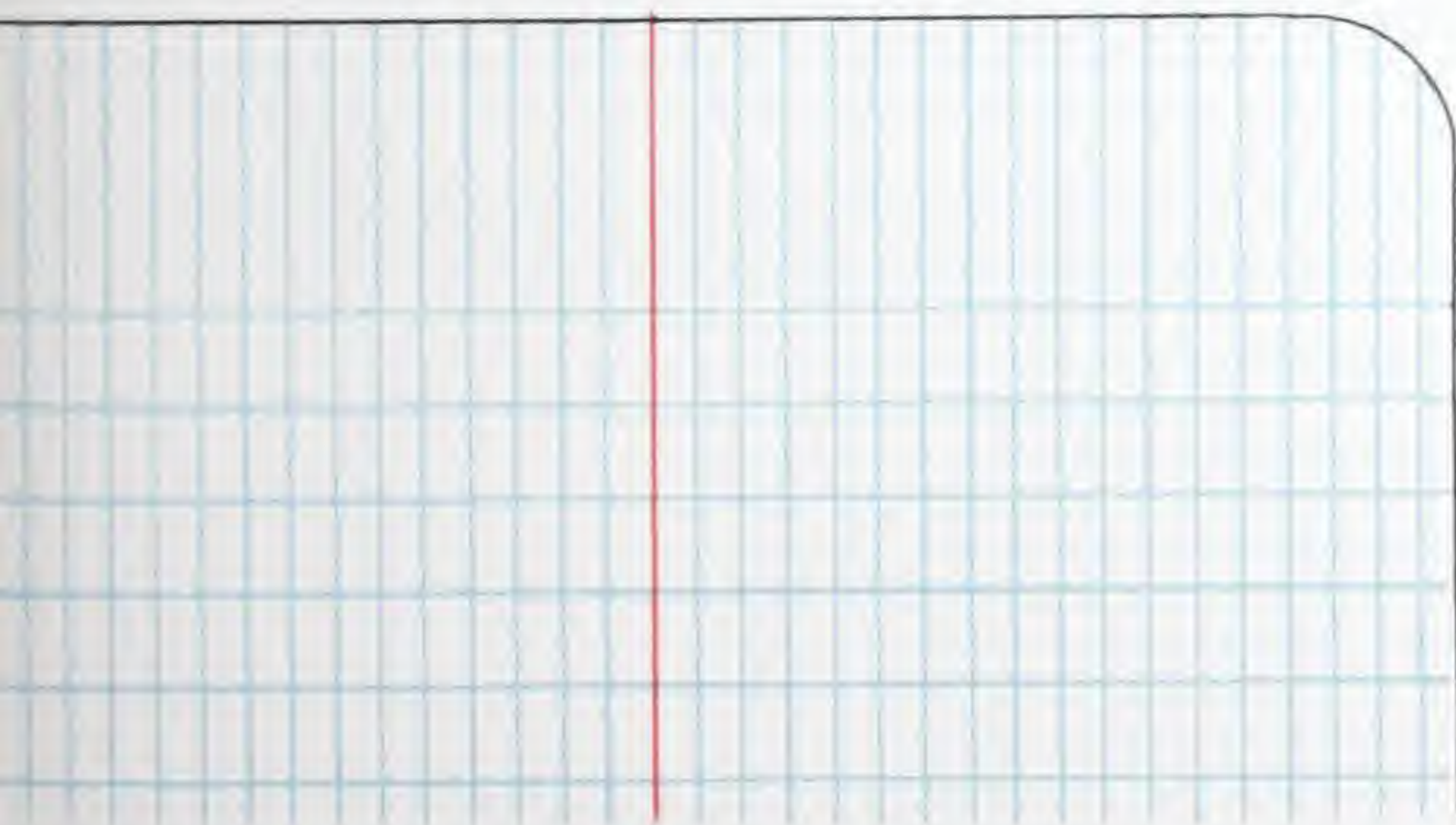
**Paper**—The leaves are of a good quality paper with waterproof surface having excellent erasing qualities.

**Engraving**—Is made from plates to insure accuracy in spacing and clearness of lines. The inks used are a fine quality of water proof ink that will not rub off or blur if touched with wet fingers.

**Tables**—We have inserted tables in the Transit Books, which we believe will be the most help in the field as follows—

Excavations and Embankments;

Trigonometric Formulae; Inches in decimals of a foot; Useful Relations Table; Stadia Reduction Formulae; Curve Formulae for Simple Curves; Natural Trigonometric Functions (Sine, Tangent, Cosine, Cotangent) for every 10' of arc; Rods in Feet and Inches; Links in Feet and Inches; Tangents and Externals to a 1° curve; Middle Ordinates of Rails; Short Radius Curves; Slope Reduction Table; Minutes in Decimals of a Degree.



DOZEN      EACH

h Tables.....  
h Tables.....

Six Dozen or More Made to Order

*See Price List Inside Back Cover*





## ENGINEERS

**2**

BOOK No. ....

Our Duplicating Field Book was made to fill a demand from engineers in the field where it is necessary to keep the office supplied with notes while the work is in progress. The engineer also has a copy, which is very convenient. They can be furnished with

- 70781 Elliott's 742 Duplicating Field Book, Genuine Leather Cover,  $4\frac{1}{2}$  x  $7\frac{3}{4}$  inches  
70782 Elliott's 742P Duplicating Field Book, Genuine Leather Cover,  $4\frac{1}{2}$  x  $7\frac{3}{4}$  inches  
70783 (742 $\frac{1}{2}$ ) Binders for Duplicating Field Book Leaves.....

[illegible]

- 70784 Elliott's 743 Level Book, 4 x 6½ inches, 80 leaves, smooth paper, with tables.  
70785 Elliott's 744 Level Book, 4 x 6½ inches, 60 leaves, smooth paper, with tables.

Special Transit or Level Books, Mad

*See Price List Inside Back Cover*





## FIELD BOOKS

2

BOOK No .....

2

Office Record Block is printed on reverse of original leaf.

|                                                     |       |      |
|-----------------------------------------------------|-------|------|
|                                                     | DOZEN | EACH |
| leaves, Original Leaf perforated, with tables.....  |       |      |
| leaves, Duplicate Leaf perforated, with tables..... |       |      |

[illegible]

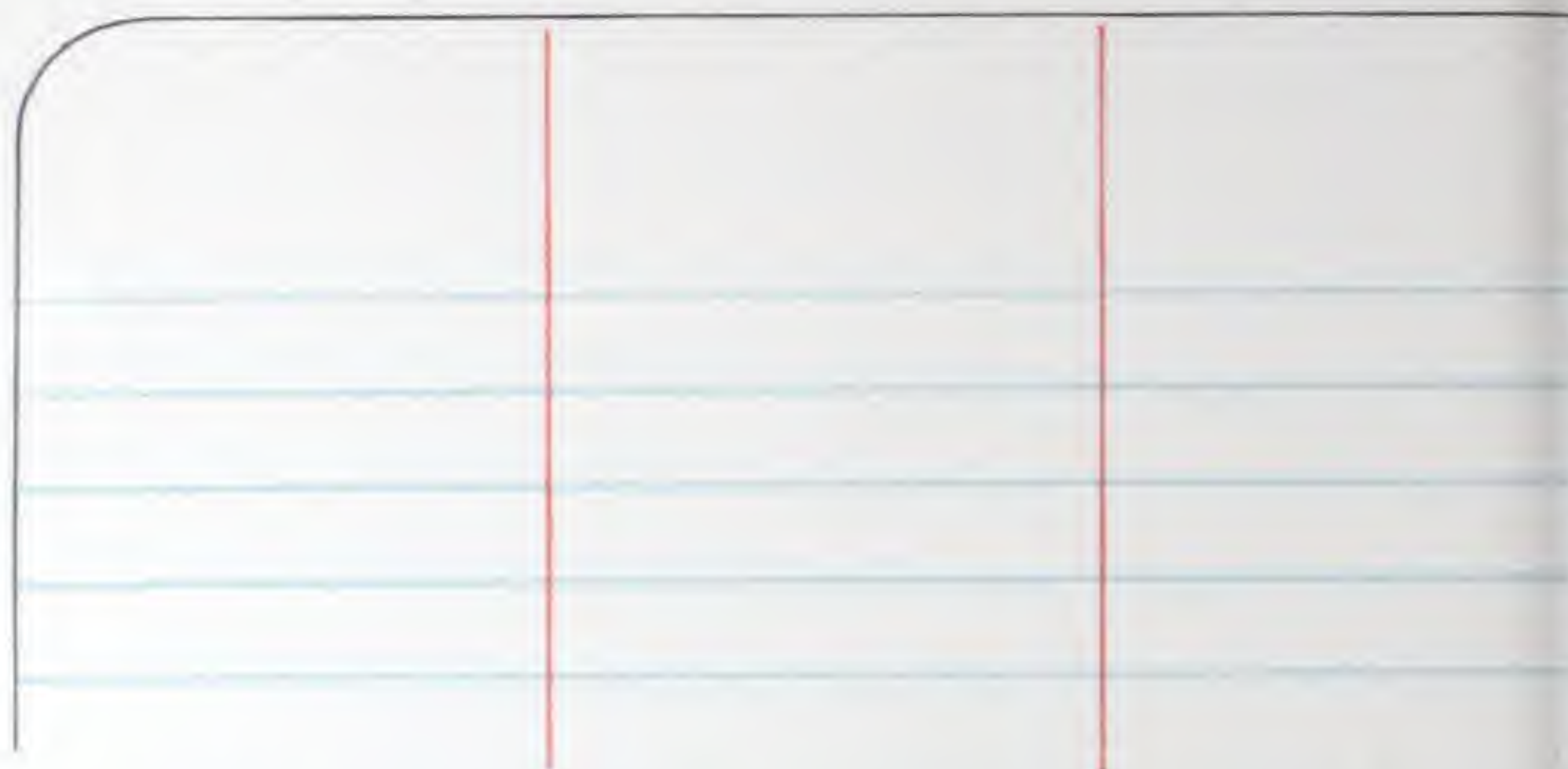
|       |      |
|-------|------|
| DOZEN | EACH |
|-------|------|

**Order in Lots of Six Dozen or More**

*See Price List Inside Back Cover*



**ENGINEER**



70801 Elliott's 746 Transit Book,  $4\frac{1}{2} \times 7\frac{1}{2}$  inches, 80 Leaves, smooth paper, with



70802 Elliott's 750 Cross Section Book,  $4\frac{1}{2} \times 7\frac{1}{2}$  inches, 10 x 10 to inch, 80 Leaves  
 70803 Elliott's 751 Cross Section Book,  $7 \times 8\frac{1}{4}$  inches, 10 x 10 to inch, 80 Leaves

Any Other Style of Field or Cross Section Books

*See Price List Inside Back Cover*





**B. K. ELLIOTT COMPANY**



## OLD BOOKS

This image shows a single, blank page from a lined notebook. The page is white with light blue horizontal ruling lines. A vertical red line runs down the center of the page, dividing it into two equal columns. The right-hand corner of the page is rounded. There are no markings, text, or drawings on the page.

DOZEN

EACH

28

[illegible]

DOZEN

EACH

oth Paper.....

oth Paper.....

le to Order in Lots of Six Dozen or More

*See Price List Inside Back Cover*



## ALTENEDER RULING PENS

Each Pen Stamped "TA"



70821



70825



70823



70827

EACH

|                                                                                                              |                                                                    |  |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--|
| 70821 (1602 $\frac{1}{2}$ )                                                                                  | 5-inch Stainless Steel Spring Hinge Ruling Pen.....                |  |
| 70822 (1604 $\frac{1}{2}$ )                                                                                  | 5 $\frac{1}{2}$ -inch Stainless Steel Spring Hinge Ruling Pen..... |  |
| 70823 (1614)                                                                                                 | 5-inch Spring Blade Ruling Pen.....                                |  |
| 70824 (1614 $\frac{1}{2}$ )                                                                                  | 5-inch Stainless Steel Spring Blade Ruling Pen.....                |  |
| 70825 (1615)                                                                                                 | 5 $\frac{1}{2}$ -inch Spring Blade Ruling Pen.....                 |  |
| 70826 (1615 $\frac{1}{2}$ )                                                                                  | 5 $\frac{1}{2}$ -inch Stainless Steel Spring Blade Ruling Pen..... |  |
| 70827 (1632 $\frac{1}{2}$ )                                                                                  | 6-inch Stainless Steel Wide Blade Ruling Pen, Ebony Handle.        |  |
| 70828 (1632 $\frac{1}{2}$ A)                                                                                 | 6-inch Stainless Steel Wide Blade Ruling Pen, Aluminum Handle..... |  |
| 70829GS Graduated Screw will be furnished with any of above pens at additional cost. See Illustration 70823. |                                                                    |  |

*See Price List Inside Back Cover*





# ALTENEDER

## CONTOUR PENS

## RAILROAD PENS AND PENCILS

## PRICKERS



70831



70832



70833



70835



70836

|       |         |                                                                        | EACH |
|-------|---------|------------------------------------------------------------------------|------|
| 70831 | (1645½) | 4¾-inch Contour Pen, tubular metal handle.....                         |      |
| 70832 | (1646)  | 5¼-inch Double Contour Pen, tubular metal handle.....                  |      |
| 70833 | (1625½) | 5-inch Railroad Pen, center adjusting, <b>Stainless Steel</b> .....    |      |
| 70834 | (1626½) | 5-inch Railroad Pencil, center adjusting, <b>Stainless Steel</b> ..... |      |
| 70835 | (1653)  | 4¼-inch Pricker, removable needle point.....                           |      |
| 70836 | (1658)  | 4½-inch Pricker, removable needle point, threaded.....                 |      |

*See Price List Inside Back Cover*





## ALTENEDER SIDE ADJUSTING BOW INSTRUMENTS



708401



708403



708406

EACH

- |        |            |                                                                                  |
|--------|------------|----------------------------------------------------------------------------------|
| 708401 | (1530)     | 3 1/4-inch Bow Divider, .....                                                    |
| 708402 | (1531 1/2) | 3 1/4-inch Bow Divider, with two removable needle points, stainless steel, ..... |
| 708403 | (1532)     | 3 1/4-inch Bow Pencil, .....                                                     |
| 708404 | (1532 1/2) | Above made of stainless steel, .....                                             |
| 708405 | (1534 1/2) | 3 1/4-inch Bow Pen, spring-hinge pen, stainless steel, .....                     |
| 708406 | (1535)     | 3 1/4-inch Bow Pen, spring-blade pen, .....                                      |
| 708407 | (1535 1/2) | Above made of stainless steel, .....                                             |
| 708408 | (1538)     | Morocco-covered Case for 3-bow instruments, .....                                |

## CENTER ADJUSTING BOW INSTRUMENTS



708409



708411



708414

EACH

- |        |            |                                                                         |
|--------|------------|-------------------------------------------------------------------------|
| 708409 | (1580)     | 3 1/4-inch Bow Divider, .....                                           |
| 708410 | (1581 1/2) | 3 1/4-inch Bow Divider, removable needle points, stainless steel, ..... |
| 708411 | (1582)     | 3 1/4-inch Bow Pencil, .....                                            |
| 708412 | (1582 1/2) | Above made of stainless steel, .....                                    |
| 708413 | (1584 1/2) | 3 1/4-inch Bow Pen, spring-hinge pen, stainless steel, .....            |
| 708414 | (1585)     | 3 1/4-inch Bow Pen, spring-blade pen, .....                             |
| 708415 | (1585 1/2) | Above made of stainless steel, .....                                    |
| 708416 | (1588)     | Morocco covered Case for 3-bow instruments, .....                       |

See Price List Inside Back Cover

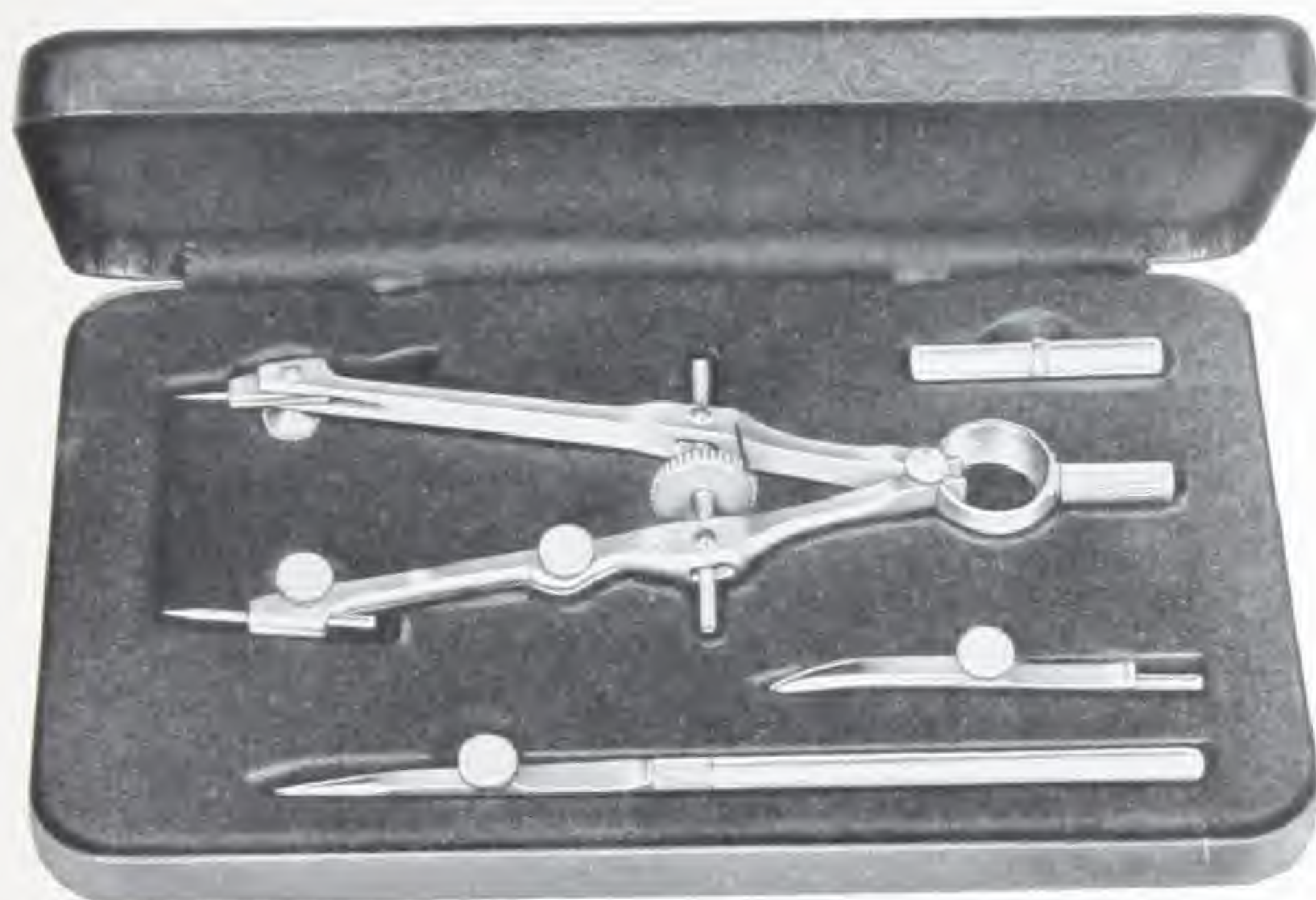


ALTENEDER

6-INCH CENTRE ADJUSTING BOW INSTRUMENT

LIGHT AND RIGID

Range: Approximately  $1/16"$  -  $9\frac{1}{2}"$



EACH

- 70851 (615)** 6-inch Centre Adjusting Bow Pen and Pencil, hardened steel pencil part and **Stainless Steel Spring Blade Pen**, furnished in lined cardboard box with lead case
- 70852 (615 SH)** The above instrument with **Stainless Steel Spring-Hinge Pen**
- 70853 (616)** No. 70851 minus pen part
- 70854 (618)** Bow Pen and Pencil and 5-inch **Stainless Steel** ruling pen. Furnished with divider needle points in lined metal case with lead case
- 70855 (618 SH)** The above with Spring-Hinge **Stainless Steel** pens  
Needle Points, Double Shouldered  
Divider Points, Set of Two

A Condensed Set Valuable to Student or Professional Draftsman

*See Price List Inside Back Cover*



## ALTENER DROP SPRING BOW INSTRUMENTS



70861



70862



70863

EACH

- |                             |                                                                            |
|-----------------------------|----------------------------------------------------------------------------|
| 70861 (1572 $\frac{1}{2}$ ) | 4-inch Drop Spring Bow Pencil, <b>Stainless Steel</b> .....                |
| 70862 (1574 $\frac{1}{2}$ ) | 4-inch Drop Spring Bow Pen, Spring Hinge Pen, <b>Stainless Steel</b> ..... |
| 70863 (1575 $\frac{1}{2}$ ) | 4-inch Drop Spring Bow Pen, Spring Blade Pen, <b>Stainless Steel</b> ..... |
| 70864 (1578)                | Morocco-covered Case for One Bow .....                                     |
| 70865 (1579)                | Morocco-covered Case for Two Bows .....                                    |
| 70866 (1576)                | 4-inch Drop Spring Bow Pen and Pencil, Spring Blade Pen .....              |

*See Price List Inside Back Cover*



# ALTENEDER COMPASSES AND DIVIDERS



70871



70874

EACH

SPRING  
HINGE  
PEN

- 70871 (1404) 6 $\frac{1}{4}$ -inch Pen and Pencil Compass with lengthening bar, fixed needle-point leg . . . . .
- 70872 (1404 $\frac{1}{2}$ ) Above with **Stainless Steel** Pen . . . . .
- 70873 (1404 $\frac{1}{2}$  SH) Above Compass with **Stainless Steel Spring Hinge** Pen . . . . .
- 70874 (1423) 5 $\frac{3}{4}$ -inch Hair-spring Divider.
- 70875 (1423) 5 $\frac{3}{4}$ -inch Hair-spring Divider.

- 70876 (1434) Same as 70871 Compass but with hair-spring adjustment . . . . .
- 70877 (1434 $\frac{1}{2}$ ) Same as 70876 with **Stainless Steel** Pen . . . . .
- 70878 (1434 $\frac{1}{2}$  SH) Same as 70876 with Spring-hinge **Stainless Steel** Pen . . . . .

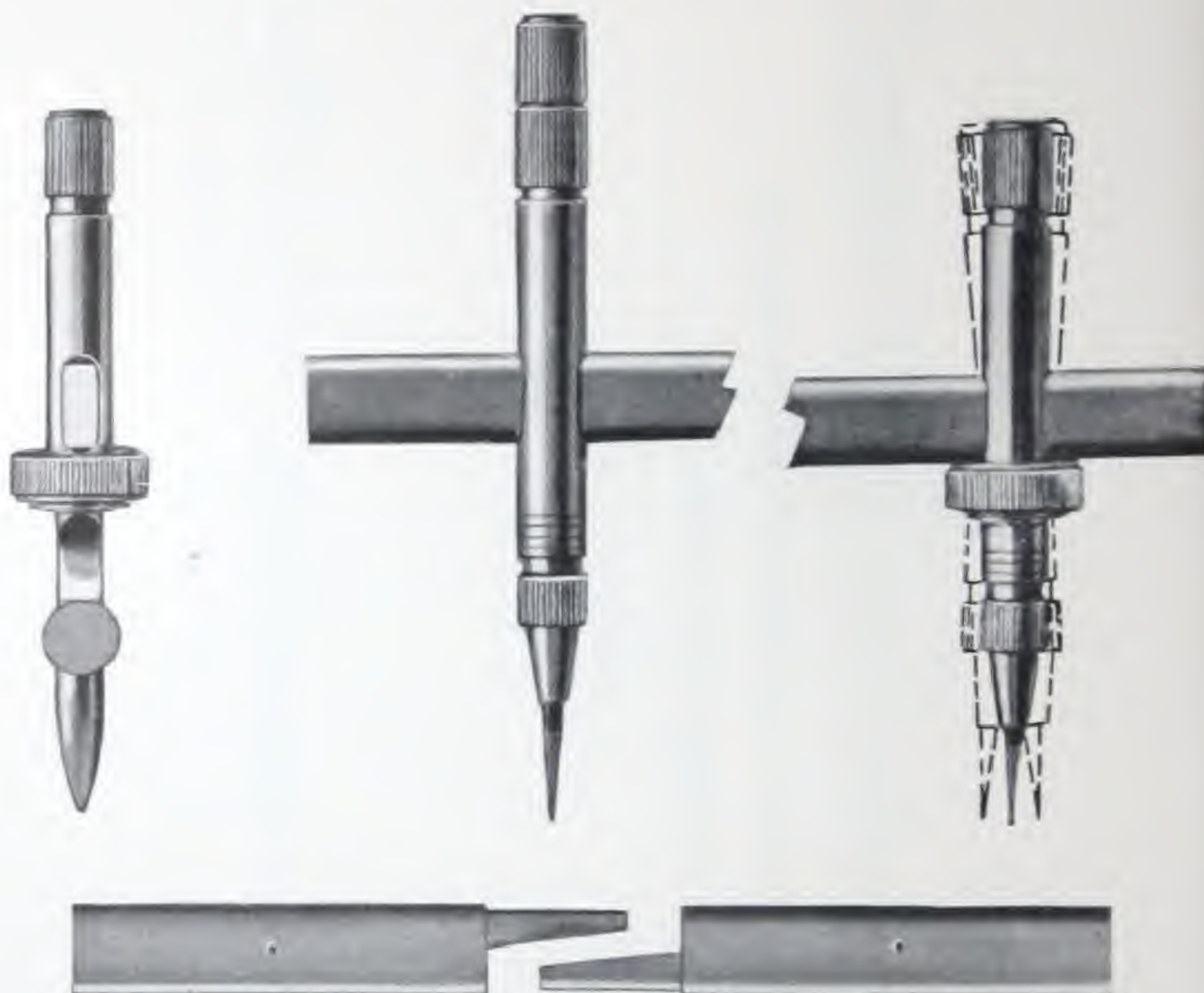
See Price List Inside Back Cover



## ALTENEDER IMPROVED TUBULAR BEAM COMPASS

Patent 2,385,723, dated 9-25-45

All Stainless Instrument Designed for Fastidious Draftsmen



70881

EACH

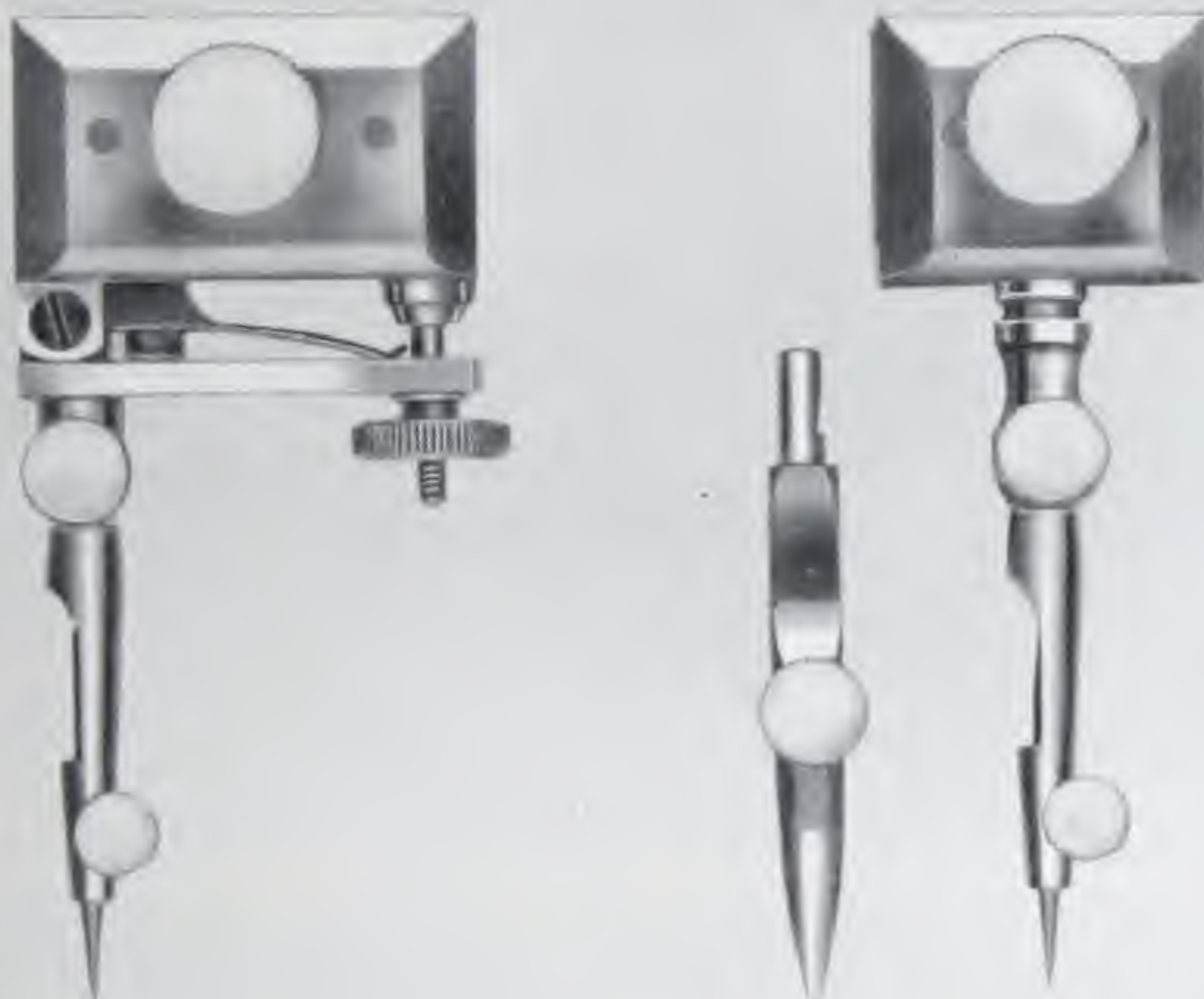
**70881** Tubular Beam Compass, one 3" bar and two 8" bars fitted with taper slip-joint, furnished in case.

The outstanding feature of this Beam Compass is a cam operation for fine adjustment instead of the micrometer screw. This development requires fewer parts, eliminates the use of screw threads and is positive in action. The maximum adjustment is  $\frac{3}{16}$ " which is obtained in a single operation. Our standard hardened steel pencil chuck is used on the needle point and pencil legs and the high carbon stainless pen assures unlimited life for the instrument. The three vertical members are held in position by spring tension which can be regulated by turning knurled nut at top. They can also be locked in position if desired. This instrument is light but exceptionally rigid and will be found useful for small work as well as large. Special length bars can be furnished to order.

*See Price List Inside Back Cover*



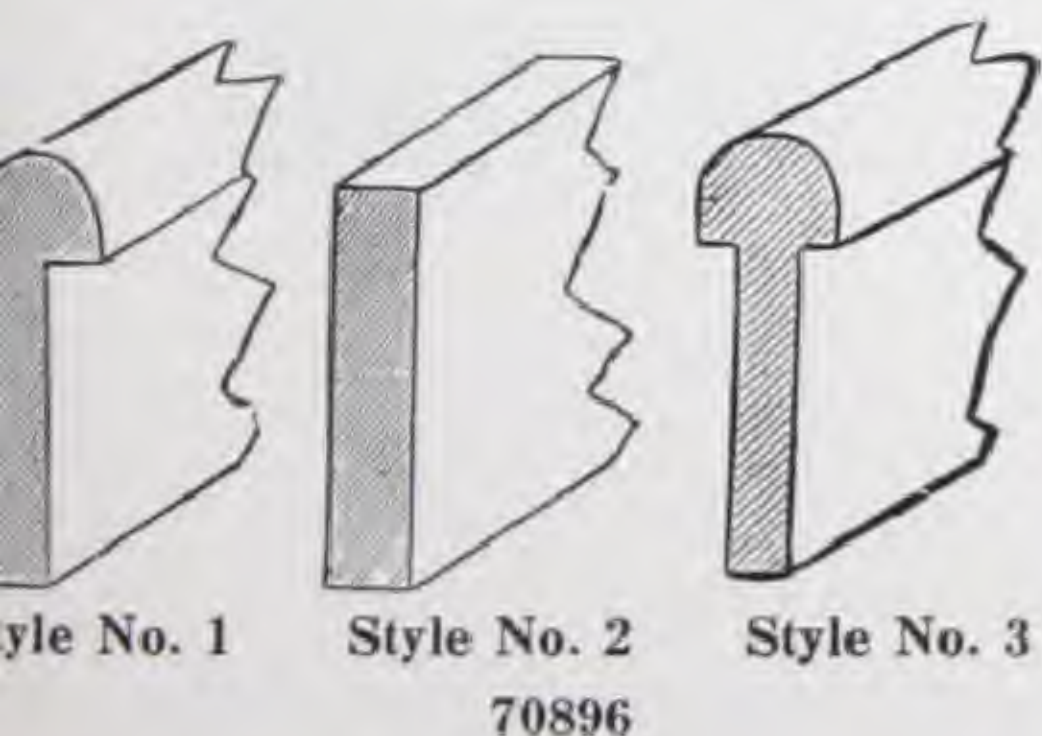
# ALTENER BEAM COMPASSES



70891

EACH

- 891 (1672) Beam Compass with interchangeable pen, pencil, and needle-point legs with micrometer adjustment
- 892 (1672 SH) Beam Compass as above with **spring-hinge pen**
- 893 (1674) Beam Compass 70891 with two divider points
- 894 (1674 SH) Beam Compass as above with **spring-hinge pen**
- 895 (1675) Wheel Attachment



## BARS FOR BEAM COMPASSES

70896 Bars for Beam Compasses made of hard-wood, Style Nos. 1, 2 or 3.

Size, inches 24 30 36 42 48 60

Each . . . . 1  
2  
3

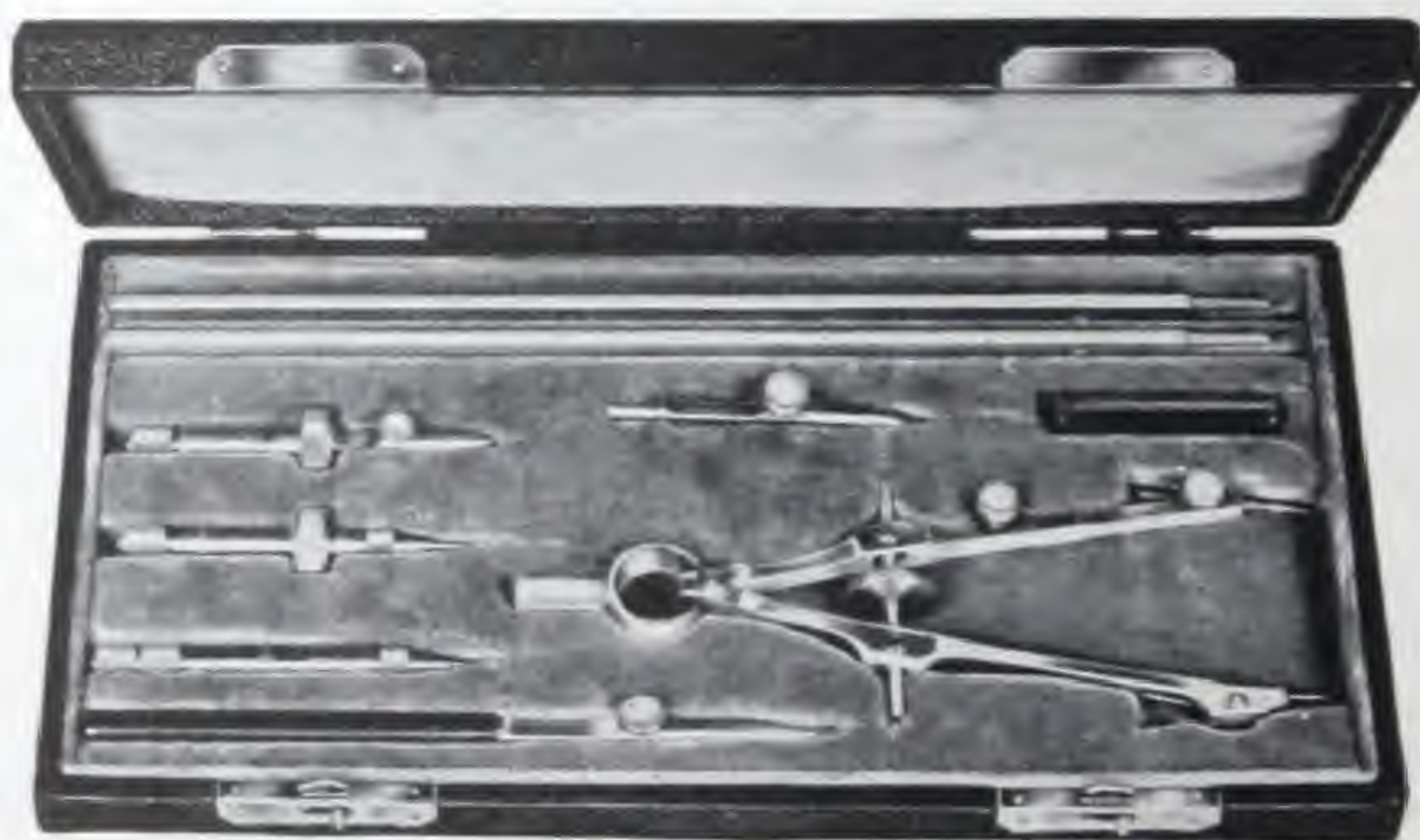
See Price List Inside Back Cover



## ALTENEDER DRAWING INSTRUMENTS



- 70901 (2040)** 1666 Beam Compass  
 1531½ Bow Divider  
 1532½ Bow Pencil  
 1535½ Bow Pen  
 1614½ Ruling Pen
- EACH
- Morocco Covered Case.
- 70902 (2042)** Similar to the above substituting Nos. 1581½, 1582½, and 1585½  
 for Nos. 1531½, 1532½, and 1535½.



- 70903 (2045)** 1666 Beam Compass  
 615 Bow Pen and Pencil  
 1614½ Ruling Pen  
 Morocco Covered Case.
- EACH
- Empty Cases
- 70904** Nos. 2040, 2042, 2045, 2050, and 2054.
- 70905** Nos. 2066 and 2070.
- 70906** Nos. 2084½ and 2087½.  
 Cases for special sets made to order.

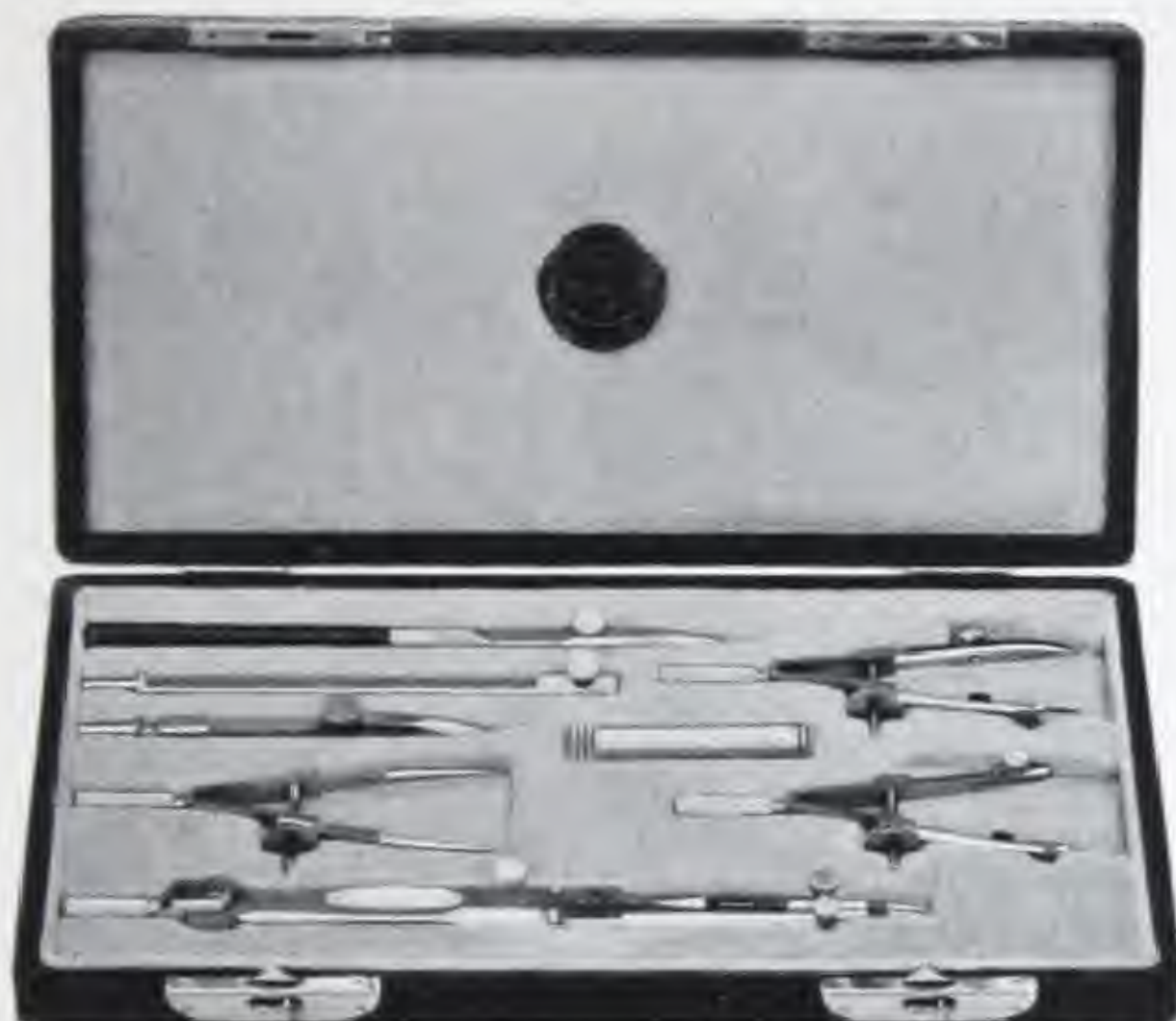
*See Price List Inside Back Cover*



**ALTENEDER DRAWING INSTRUMENTS**

**SETS WITH SIDE ADJUSTING BOWS**

Specify whether **Morocco Covered** or **Folding Pocket Case** is desired



- 0911 (2050) 1404, 6 $\frac{1}{4}$ -inch Pen and Pencil Compass with Bar  
 1530, 3 $\frac{1}{4}$ -inch Side Adjusting Bow Divider  
 1532, 3 $\frac{1}{4}$ -inch Side Adjusting Bow Pencil  
 1535, 3 $\frac{1}{4}$ -inch Side Adjusting Bow Pen  
 1614, 5-inch Spring Blade Ruling Pen EACH  
 Morocco Covered or Folding Pocket Case with Lead Case...
- 0912 (2050 $\frac{1}{2}$ ) Above with Stainless Steel Pens.....
- 0913 (2050 $\frac{1}{2}$  SH) Above with Stainless Steel Spring-hinge Pens.....
- 0914 (2066) 1404, 6 $\frac{1}{4}$ -inch Pen and Pencil Compass with Bar  
 1423, 5 $\frac{3}{4}$ -inch Hair-spring Divider  
 1530, 3 $\frac{1}{4}$ -inch Side Adjusting Bow Divider  
 1532, 3 $\frac{1}{4}$ -inch Side Adjusting Bow Pencil  
 1535, 3 $\frac{1}{4}$ -inch Side Adjusting Bow Pen  
 1614, 5-inch Spring Blade Ruling Pen  
 1615, 5 $\frac{1}{2}$ -inch Spring Blade Ruling Pen  
 Morocco Covered or Folding Pocket Case with Lead Case...
- 0915 (2066 $\frac{1}{2}$ ) Above with Stainless Steel Pens.....
- 0916 (2066 $\frac{1}{2}$  SH) Above with Stainless Steel Spring-hinge Pens.....
- 0917 (2084 $\frac{1}{2}$ ) 1404 $\frac{1}{2}$ , 6 $\frac{1}{4}$ -inch Pen and Pencil Compass with Bar  
 1423, 5 $\frac{3}{4}$ -inch Hair-spring Divider  
 1531 $\frac{1}{2}$ , 3 $\frac{1}{4}$ -inch Side Adjusting Bow Divider  
 1532 $\frac{1}{2}$ , 3 $\frac{1}{4}$ -inch Side Adjusting Bow Pencil  
 1535 $\frac{1}{2}$ , 3 $\frac{1}{4}$ -inch Side Adjusting Bow Pen  
 1575 $\frac{1}{2}$ , 4-inch Drop Spring Bow Pen  
 1614 $\frac{1}{2}$ , 5-inch Spring Blade Ruling Pen  
 1615 $\frac{1}{2}$ , 5 $\frac{1}{2}$ -inch Spring Blade Ruling Pen  
 Morocco Covered or Folding Pocket Case with Lead Case...
- 0918 (2084 $\frac{1}{2}$  SH) Above with Stainless Steel Spring-hinge Pens.....

*See Price List Inside Back Cover*



## ALTENEDER DRAWING INSTRUMENTS

### SETS WITH CENTRE ADJUSTING BOWS

Specify whether Morocco Covered or Folding Pocket Case is desired



- |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 70921 (2054)                  | 1404, 6 $\frac{1}{4}$ -inch Pen and Pencil Compass with Bar<br>1580, 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Divider<br>1582, 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Pencil<br>1585, 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Pen<br>1614, 5-inch Spring Blade Ruling Pen<br>Morocco Covered or Folding Pocket Case with Lead Case...                                                                                                                                                                                                                                                 | EACH |
| 70922 (2054 $\frac{1}{2}$ )   | Above with Stainless Steel Pens.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| 70923 (2054 $\frac{1}{2}$ SH) | Above with Stainless Steel Spring-hinge Pens.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 70924 (2070)                  | 1404, 6 $\frac{1}{4}$ -inch Pen and Pencil Compass with Bar<br>1423, 5 $\frac{3}{4}$ -inch Hair-spring Divider<br>1580, 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Divider<br>1582, 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Pencil<br>1585, 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Pen<br>1614, 5-inch Spring Blade Ruling Pen<br>1615, 5 $\frac{1}{2}$ -inch Spring Blade Ruling Pen<br>Morocco Covered or Folding Pocket Case with Lead Case...                                                                                                                                       |      |
| 70925 (2070 $\frac{1}{2}$ )   | Above with Stainless Steel Pens.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| 70926 (2070 $\frac{1}{2}$ SH) | Above with Stainless Steel Spring-hinge Pens.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |
| 70927 (2087 $\frac{1}{2}$ )   | 1404 $\frac{1}{2}$ , 6 $\frac{1}{4}$ -inch Pen and Pencil Compass with Bar<br>1423, 5 $\frac{3}{4}$ -inch Hair-spring Divider<br>1581 $\frac{1}{2}$ , 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Divider<br>1582 $\frac{1}{2}$ , 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Pencil<br>1585 $\frac{1}{2}$ , 3 $\frac{1}{4}$ -inch Centre Adjusting Bow Pen<br>1575 $\frac{1}{2}$ , 4-inch Drop Spring Bow Pen<br>1614 $\frac{1}{2}$ , 5-inch Spring Blade Pen<br>1615 $\frac{1}{2}$ , 5 $\frac{1}{2}$ -inch Spring Blade Ruling Pen<br>Morocco Covered or Folding Pocket Case with Lead Case... |      |
| 70928 (2087 $\frac{1}{2}$ SH) | Above with Stainless Steel Spring-hinge Pens.....                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |

*See Price List Inside Back Cover*

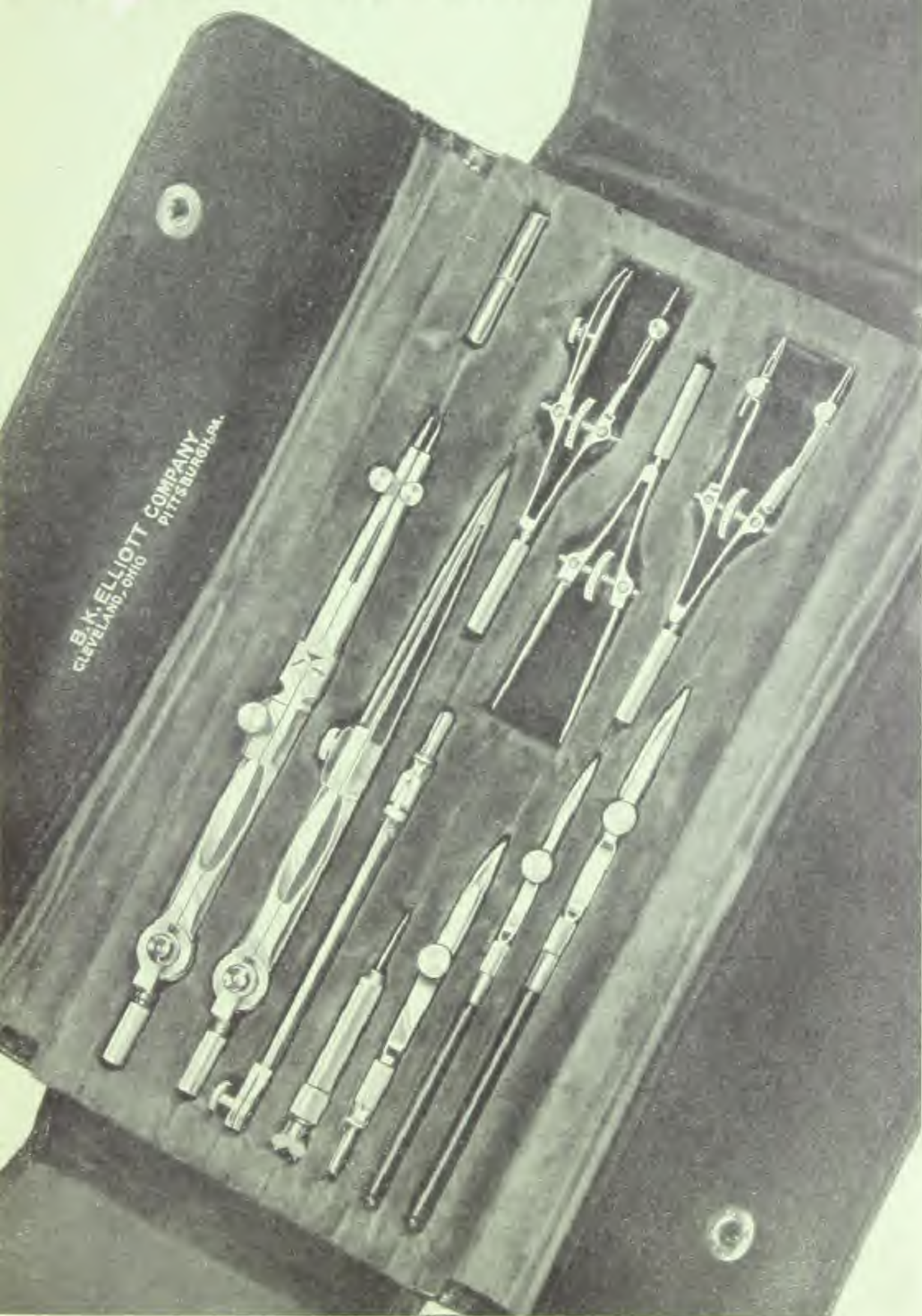


**"ELLCO"**

TRADE MARK

**American Type**

**DRAWING INSTRUMENTS**

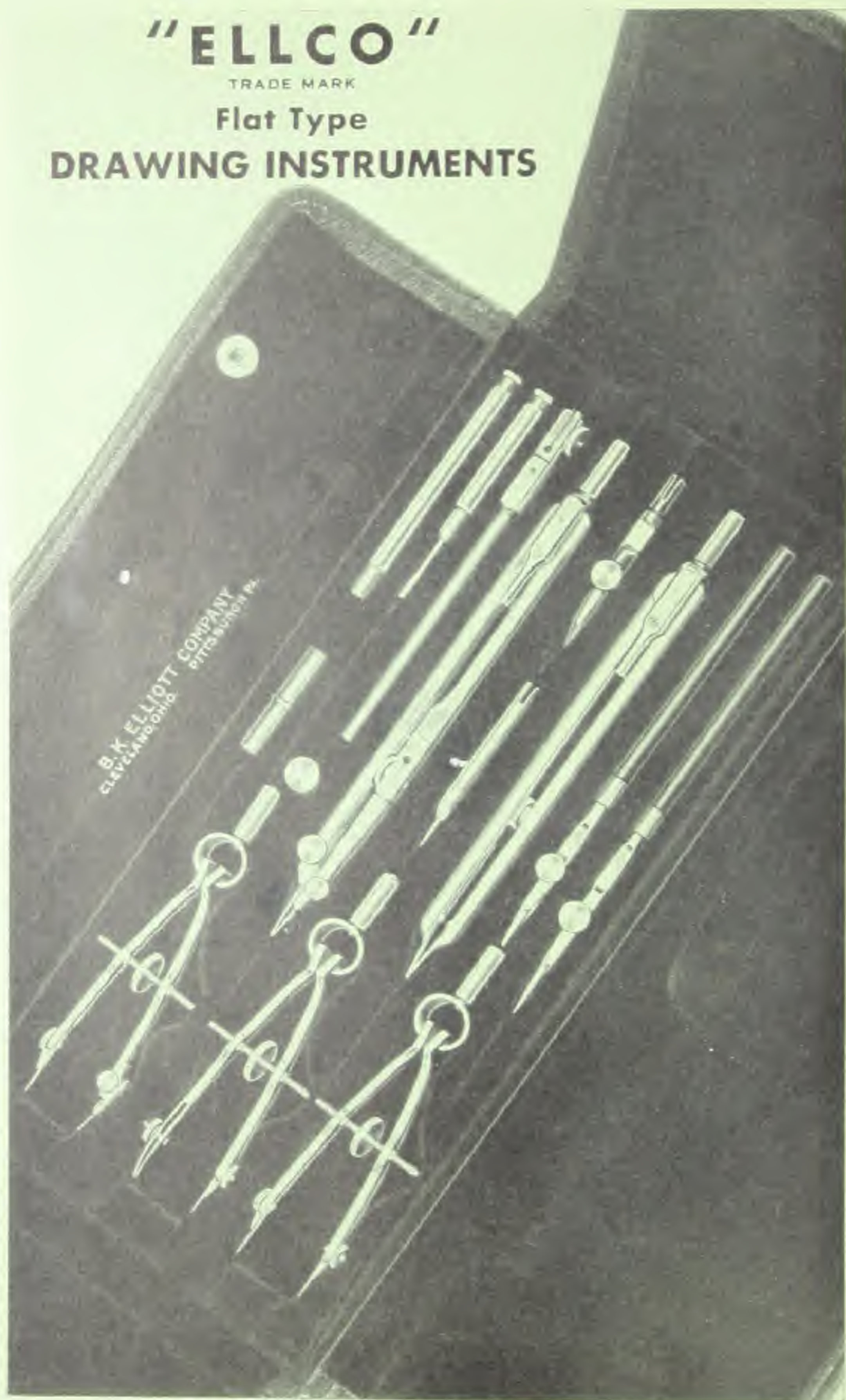




**"ELLCO"**

TRADE MARK

**Flat Type  
DRAWING INSTRUMENTS**







## DRAWING INSTRUMENTS

These Drawing Instruments, of Swiss manufacture, are of the highest quality of material and workmanship throughout. Recognized for years as one of the foremost in Drawing Instrument manufacture. We offer these instruments with the utmost confidence.

### RULING PENS



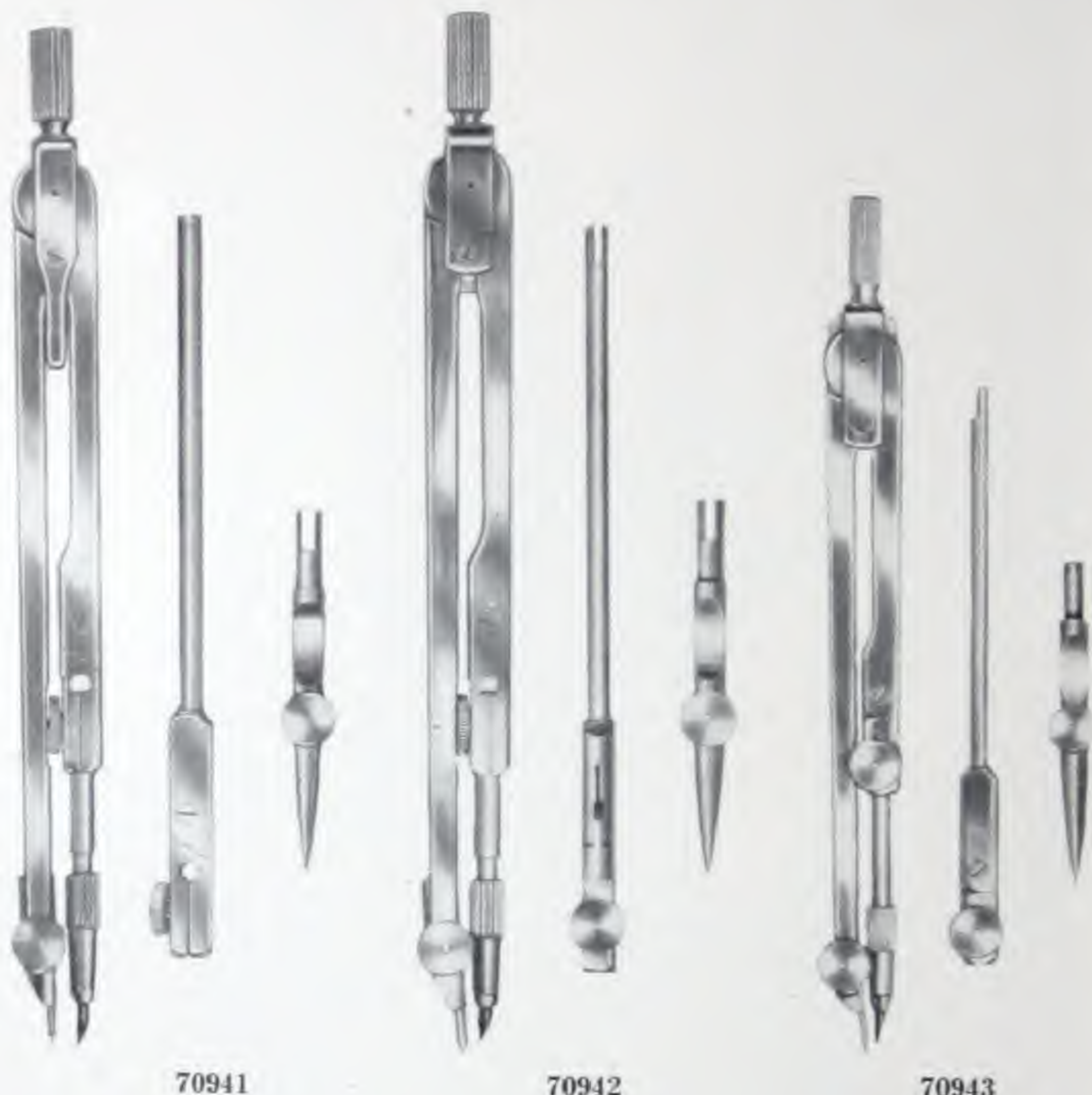
EACH

- 70931 "Elco" Ruling Pen,  $4\frac{1}{4}$ -inch spring blade, black aluminum handle. . . . .
- 70932 "Elco" Ruling Pen,  $5\frac{1}{8}$ -inch spring blade, black aluminum handle. . . . .
- 70933 "Elco" Ruling Pen,  $4\frac{1}{4}$ -inch spring blade, lever release, black aluminum handle. . . . .
- 70934 "Elco" Ruling Pen,  $5\frac{1}{8}$ -inch spring blade, lever release, black aluminum handle. . . . .
- 70935 "University" Ruling Pen,  $4\frac{1}{4}$ -inch spring blade, black aluminum handle.
- 70936 "University" Ruling Pen,  $5\frac{1}{8}$ -inch spring blade, black aluminum handle.
- 70937 "Scholastic" Ruling Pen,  $5\frac{1}{8}$ -inch spring blade, black metal handle. . . . .

*See Price List Inside Back Cover*



## COMPASSES



- |              |                                                                                                                                  |             |
|--------------|----------------------------------------------------------------------------------------------------------------------------------|-------------|
|              |                                                                                                                                  | <b>EACH</b> |
| <b>70941</b> | "Elco" Compass, 6 $\frac{1}{8}$ -inch Self centering head, with replaceable pencil and pen parts and lengthening bar .....       |             |
| <b>70942</b> | "University" Compass, 6 $\frac{1}{8}$ -inch self centering head, with replaceable pencil and pen parts and lengthening bar ..... |             |
| <b>70943</b> | "Scholastic" Compass, 5-inch self centering head, with replaceable pencil and pen parts and lengthening bar .....                |             |

*See Price List Inside Back Cover*





BOW INSTRUMENTS

"ELLCO"  
TRADE MARK



70951



70952



70953

EACH

- 70951 "Ellco" Steel Spring Bow Divider,  $4\frac{1}{4}$ -inch center adjustment. ....  
70952 "Ellco" Steel Spring Bow Pencil,  $4\frac{1}{4}$ -inch center adjustment. ....  
70953 "Ellco" Steel Spring Bow Pen,  $4\frac{1}{4}$ -inch center adjustment. ....



70954



70955



70956

EACH

- 70954 "Ellco" Steel Spring Bow Divider, 4 inches, side adjustment. ....  
70955 "Ellco" Steel Spring Bow Pencil, 4 inches, side adjustment. ....  
70956 "Ellco" Steel Spring Bow Pen, 4 inches, side adjustment. ....

*See Price List Inside Back Cover*





## BOW INSTRUMENTS



"UNIVERSITY"  
TRADE MARK



"SCHOLASTIC"  
TRADE MARK



- 70961 "University" Bow Divider, center adjustment, circular spring head, 4 inches.  
70962 "University" Bow Pencil, center adjustment, circular spring head, 4 inches.  
70963 "University" Bow Pen, center adjustment, circular spring head, 4 inches.



70964



70965



70966

- 70964 "Scholastic" Bow Divider, side adjustment, circular spring head, 3½ inches.  
70965 "Scholastic" Bow Pencil, side adjustment, circular spring head, 3½ inches.  
70966 "Scholastic" Bow Pen, side adjustment, circular spring head, 3½ inches.

See Price List Inside Back Cover



Contour Pen

Drop Spring  
Bow Instruments

Dividers



70971



70973



70974



70975



70976

EACH

- 70971 "Elleo" Contour Pen, 4½ inches, tubular-metal handle, blades fastened to a rod in a hollow handle, with screw at upper end to set firm for straight lines or loose to follow curves. . . . .
- 70972 "Elleo" Drop Double Spring Bow Pen, 4¾ inches, with self adjusting point for small circles, in case. . . . .
- 70973 "Elleo" Drop Double Spring Bow Pen and Pencil, 4¾ inches, with self adjusting point for small circles, in case. . . . .
- 70974 "Elleo" 5¾-inch Hairspring Dividers, self centering head, replaceable steel points. . . . .
- 70975 "University" 5¾-inch Plain Dividers, self centering head, replaceable steel points. . . . .
- 70976 "Scholastic" 4¾-inch Plain Dividers, self centering head, replaceable steel points. . . . .

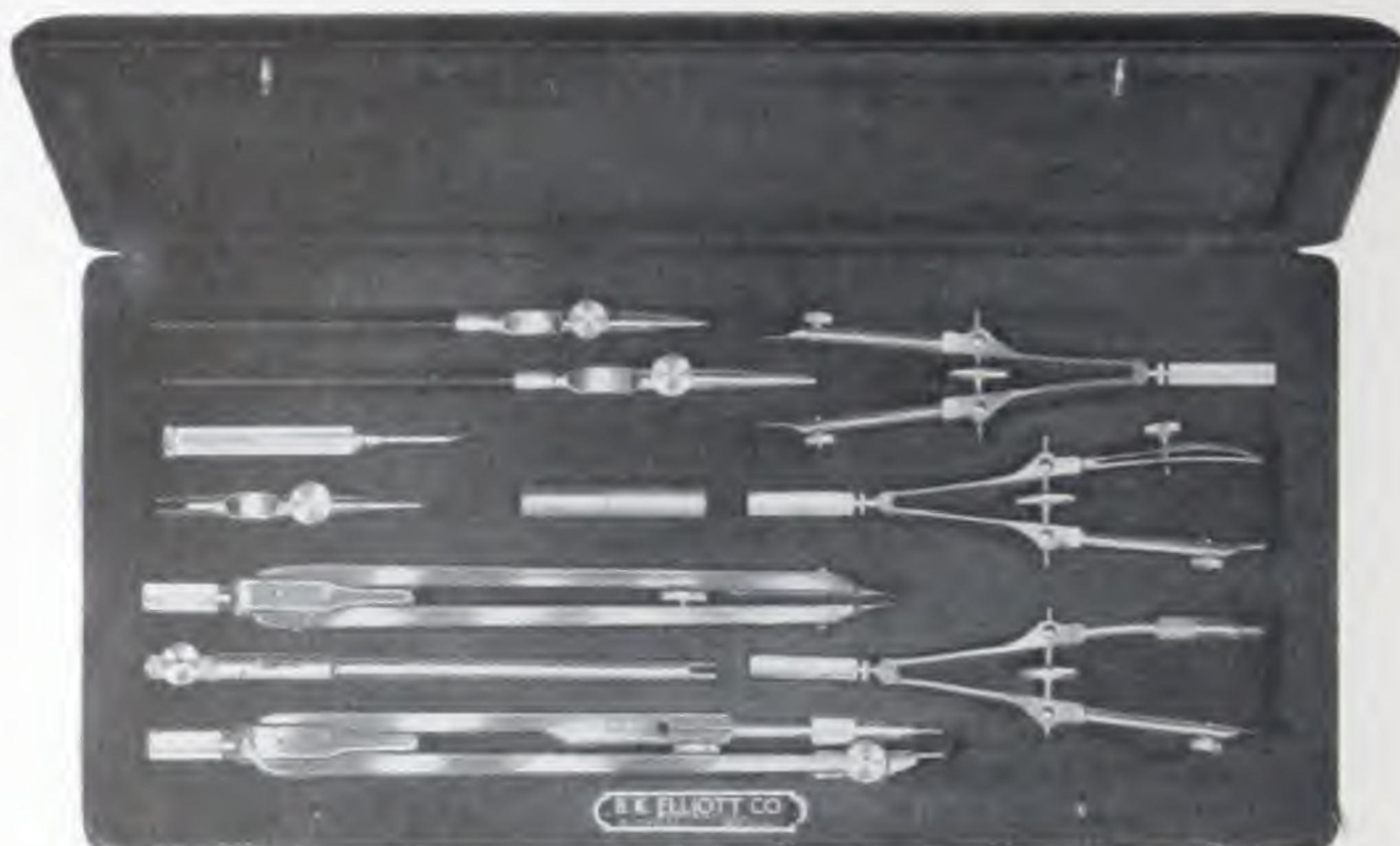
See Price List Inside Back Cover



## DRAWING INSTRUMENTS

**“ELLCO”**

TRADE MARK



**70981**

**70981** Set containing:

- 6 $\frac{1}{8}$ -inch Compass, pen, pencil and lengthening bar, with self centering head
- 5 $\frac{3}{4}$ -inch Hairspring Divider, replaceable points, self centering head
- 4 $\frac{1}{4}$ -inch Steel Spring Bow Divider
- 4 $\frac{1}{4}$ -inch Steel Spring Bow Pencil
- 4 $\frac{1}{4}$ -inch Steel Spring Bow Pen
- 4 $\frac{1}{4}$ -inch Ruling Pen, black aluminum handle
- 5 $\frac{1}{8}$ -inch Ruling Pen, black aluminum handle
- Screw Driver
- Tube with needlepoints
- Velvet lined bar-lock case

EACH

**70982** Set

EACH

Same as above but with folding pocket book case

**70983** Set

EACH

Same as **70981** but with bow instruments **70954**, **70955**, **70956**, with side adjustment.

*See Price List Inside Back Cover*



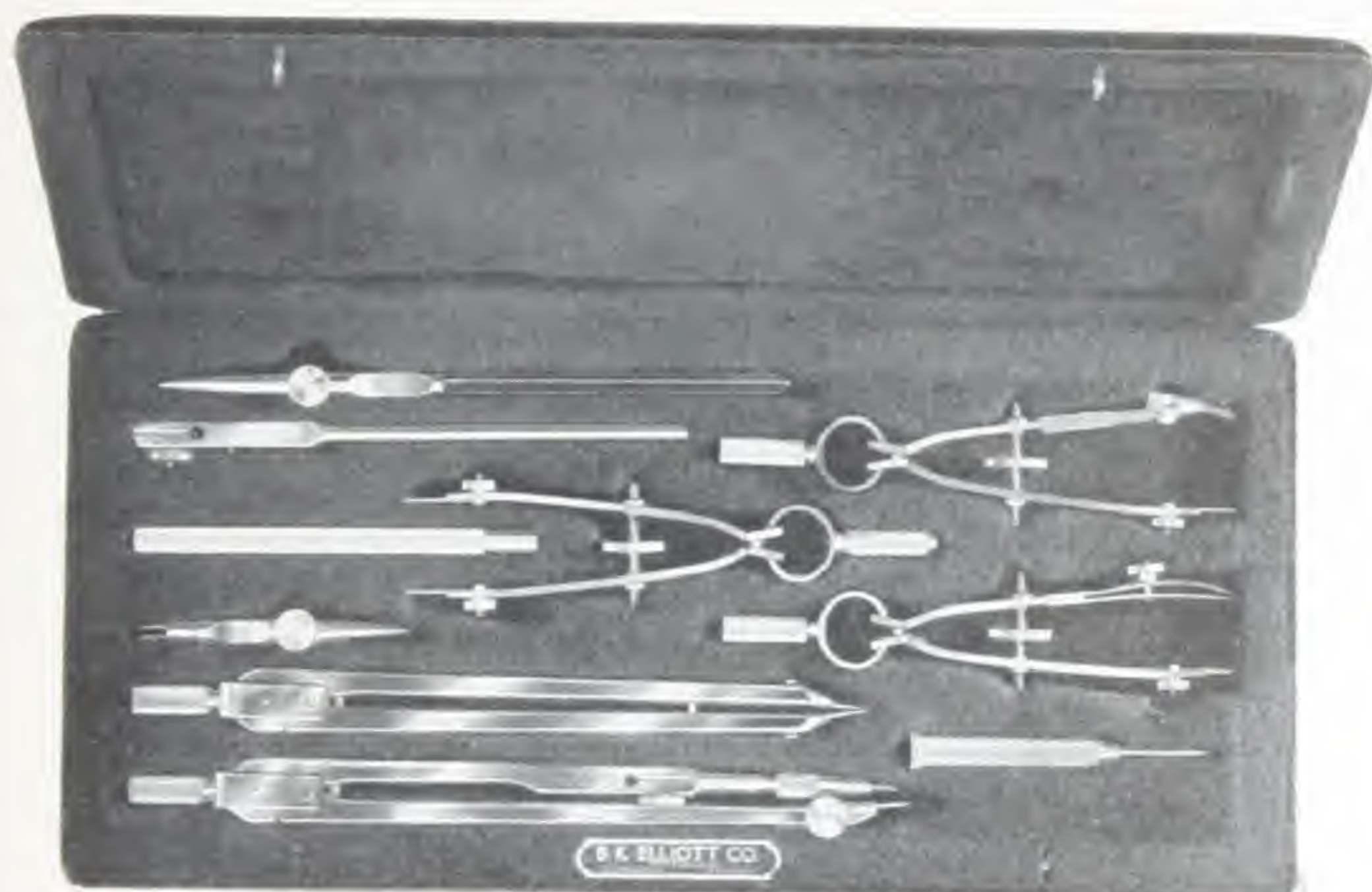


B. K. ELLIOTT COMPANY



## DRAWING INSTRUMENTS

### "UNIVERSITY"



70991

**70991** Set containing:

- 6 1/2-inch Compass, pen, pencil parts and lengthening bar, self centering head, metal handle for pen part
- 5 3/4-inch Divider, replaceable needle points, self centering head
- 4-inch Steel Spring Bow Divider, center adjustment
- 4-inch Steel Spring Bow Pencil, center adjustment
- 4-inch Steel Spring Bow Pen, center adjustment
- 5 1/2-inch Ruling Pen, black aluminum handle
- Screw Driver lead box

EACH

In Velvet-lined Bar-lock case

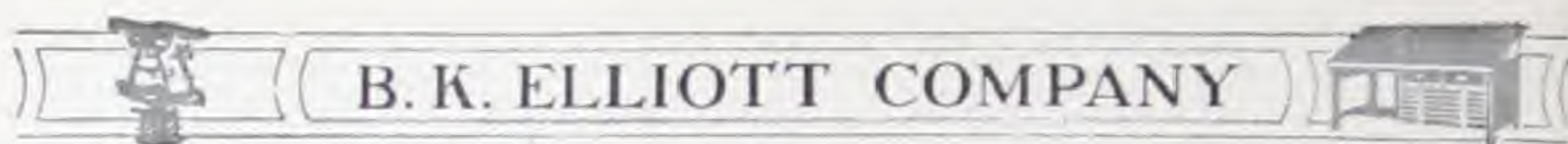
**70992** Set

EACH

Same as above but with Folding Pocket book case

*See Price List Inside Back Cover*



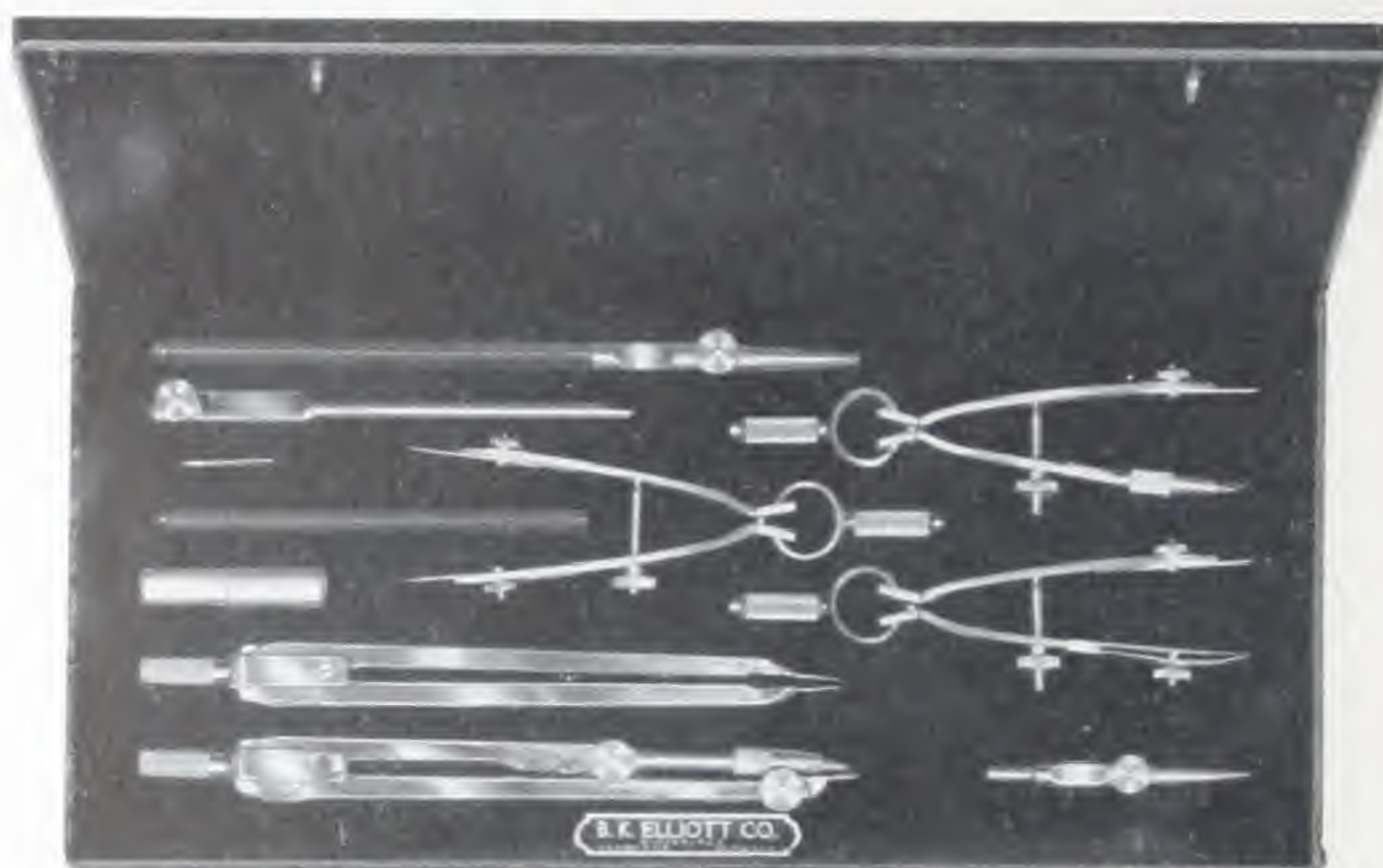


B. K. ELLIOTT COMPANY

## DRAWING INSTRUMENTS

"SCHOLASTIC"

TRADE MARK



71001

71001 Set containing:

- 5-inch Compass, pen, pencil and lengthening bar, handle for pen parts
- 4 $\frac{3}{4}$ -inch Dividers, replaceable points and self centering head
- 3 $\frac{1}{2}$ -inch Steel Spring Bow Divider, side adjustment
- 3 $\frac{1}{2}$ -inch Steel Spring Bow Pencil, side adjustment
- 3 $\frac{1}{2}$ -inch Steel Spring Bow Pen, side adjustment
- 5 $\frac{1}{8}$ -inch Ruling Pen, Black metal handle
- Tube with lead and needle points

EACH

In Velvet lined Bar-lock case

*See Price List Inside Back Cover*

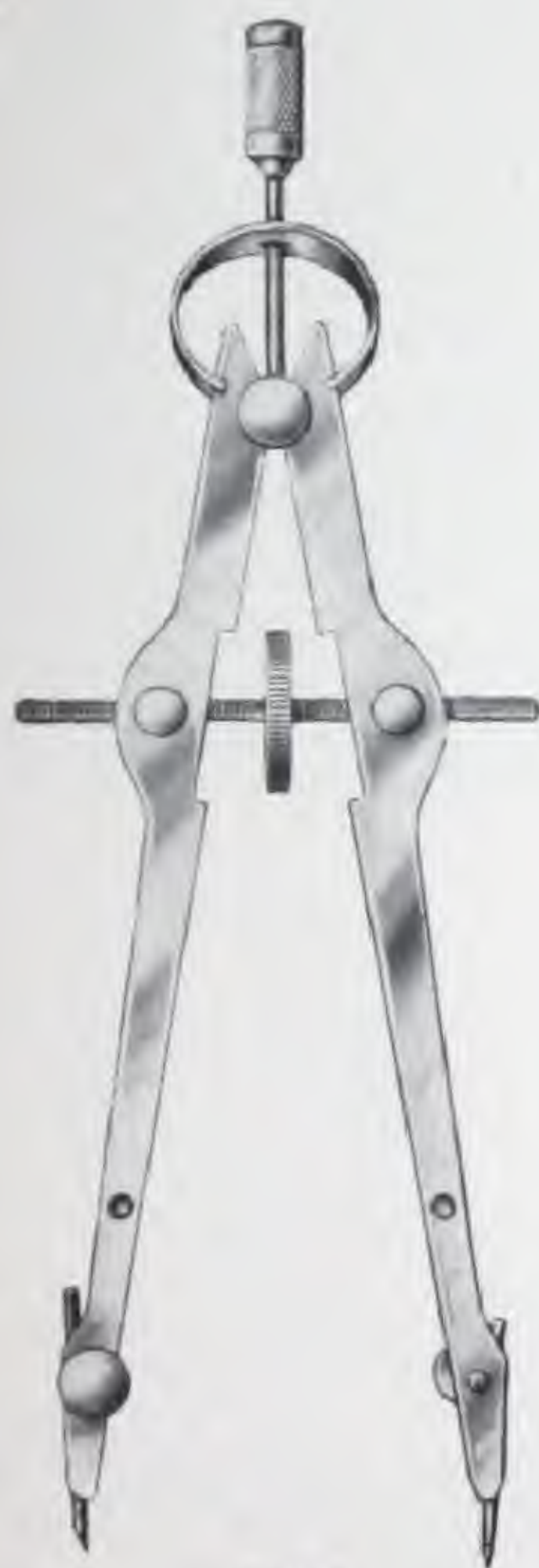


## ELLIOTT-DEMCO DRAWING INSTRUMENTS

**Light Weight:** The Demco open truss design makes possible the construction of these compasses with a 40 per cent reduction in weight, as compared to the older types.

**Stronger:** For the most part the compasses are constructed of steel to insure rigidity and durability. The center screw of each instrument articulates with the legs by cylindrical nuts. The legs bear upon a double-grooved hinge pin of broad base, insuring strength and perfect alignment.

**Finish:** The legs of our compasses are satin chrome-plated. The small parts are bright chrome-plated.



71011



71012



71013

EACH

71011 Elliott-DEMCO 6 1/2" Bow Pencil, for circles 1/8" to 10" diameter . . . . .

71012 Elliott-DEMCO 4 1/2" Bow Pencil, for circles 1/8" to 6 1/2" diameter . . . . .

71013 Elliott-DEMCO 4 1/2" Bow Pen . . . . .

See Price List Inside Back Cover



## ELLIOTT-VEMCO DRAWING INSTRUMENTS



- |       |                                                                                  |      |
|-------|----------------------------------------------------------------------------------|------|
| 71021 | Elliott-Vemco Microliner Ruling Pen, 5½ inches, short blade, surgical steel..... | EACH |
| 71022 | Elliott-Vemco Ruling Pen, 5¼ inches, wide blade rolled spring steel.....         |      |
| 71023 | Elliott-Vemco Drop Bow Pencil, 5 inches.....                                     |      |
| 71024 | Long Needle Point shaft for Drop Pencil.....                                     |      |
| 71025 | Extension Needle Point for Elliott-Vemco Center Wheel Bow Pencils.....           |      |
| 71026 | Pen Attachment for all Elliott-Vemco Bow Pencils.....                            |      |
| 71027 | Elliott-Vemco Friction Divider, 6 inches, replaceable needle points.....         |      |

*See Price List Inside Back Cover*



**ELLIOTT-VEMCO DRAWING INSTRUMENTS**



**71031**

EACH

**71031 Elliott-Vemco Set, containing:**

- 6 $\frac{1}{2}$ " Bow Compass, interchangeable (3 instruments in one)
- Pen attachment for Bow Compass
- 5 $\frac{1}{4}$ " Ruling Pen
- Long Shoulder Point Extension
- Small box containing pencil and divider points.
- Packed in leatherette velvet-lined case

**71032 Elliott-Vemco Set, containing:**

- Same instruments **71031**, packed in cardboard box

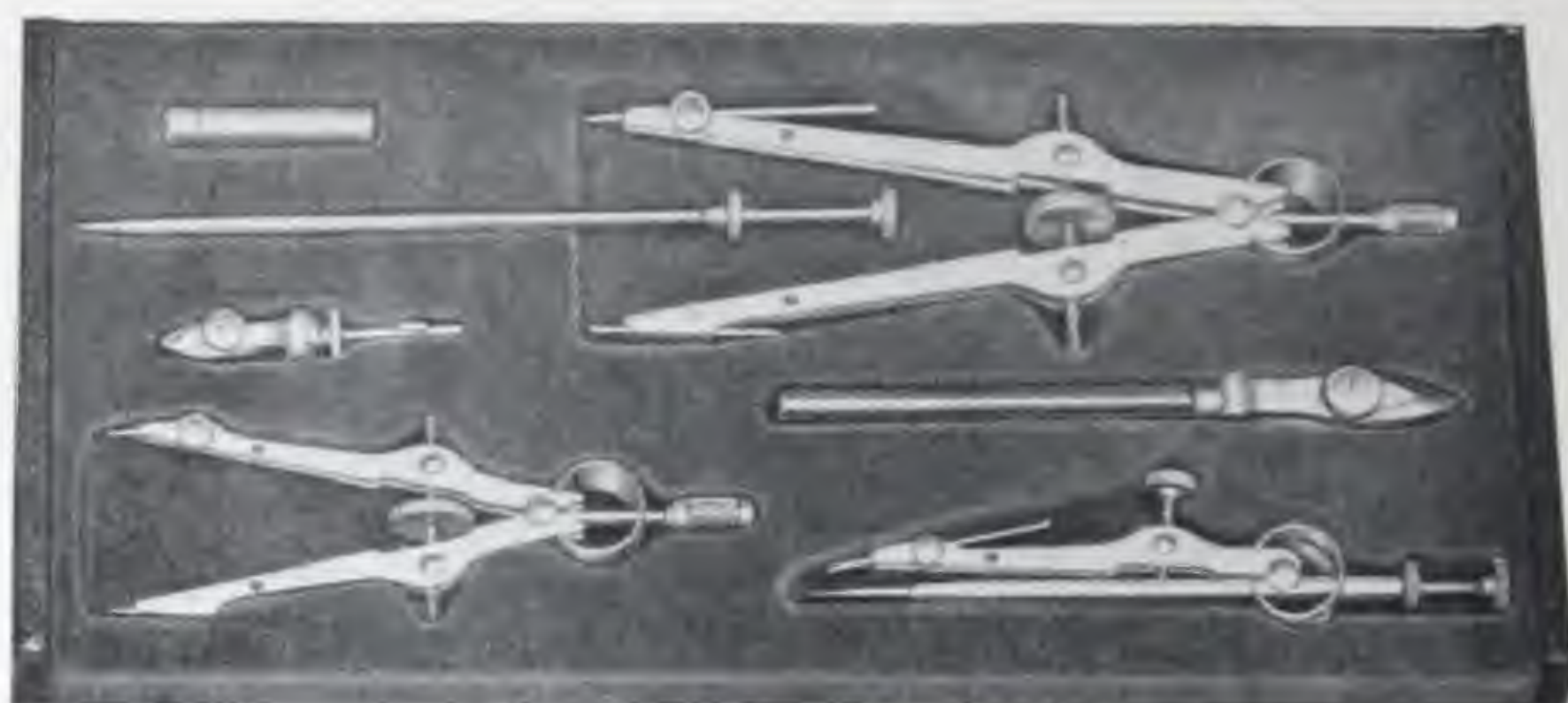
**71033 Elliott-Vemco Set, containing:**

- 4 $\frac{1}{2}$ " Compass, interchangeable (3 instruments in one)
- Pen Attachment for 4 $\frac{1}{2}$ " compass
- 5 $\frac{1}{4}$ " Ruling Pen
- Long Shoulder Needle Point Extension
- Small box containing pencil and divider points.
- Packed in leatherette velvet-lined case

*See Price List Inside Back Cover*



## ELLIOTT-DEMCO DRAWING INSTRUMENTS



71042

**71041 Elliott-DEMCO, containing:**

- 6½" Bow Compass, interchangeable (3 instruments in one)
- 4½" Bow Compass, interchangeable (3 instruments in one)
- Pen attachment for 6½" and 4½" bows
- 5¼" Ruling Pen
- Long Shoulder Needle Point Extension

Small box containing pencil and divider points.  
Packed in leatherette velvet-lined case . . . . . EACH

**71042 Elliott-DEMCO Set, containing:**

- 6½" Bow Compass, interchangeable (3 instruments in one)
- 4½" Bow Compass, interchangeable (3 instruments in one)
- Pen attachment for 6½" and 4½" bows
- Long Shoulder Needle Point Extension
- 5¼" Ruling Pen
- 5" Drop Bow Pen
- Long Shaft for Drop Bow Pen

Small box containing pencil and divider points.  
Packed in leatherette velvet-lined case . . . . . EACH

*See Price List Inside Back Cover*





## ELLIOTT-DEMCO DRAWING INSTRUMENTS



71051

**71051** Set containing:

6½" Compass

4½" Compass

Friction Divider

Pen Attachment

Long Shoulder Point

Microliner Ruling Pen

Small box with pencil and divider points

Velvet lined Pocket-book Case EACH

**71052** Set containing:

6½" Compass

4½" Compass

4½" Pen Compass

Friction Divider

Pen Attachment

Long Shoulder Point

Microliner Ruling Pen

Small box with pencil and divider points

Velvet Lined, Pocket-book Case EACH

*See Price List Inside Back Cover*



## ELLIOTT—BEAM COMPASSES

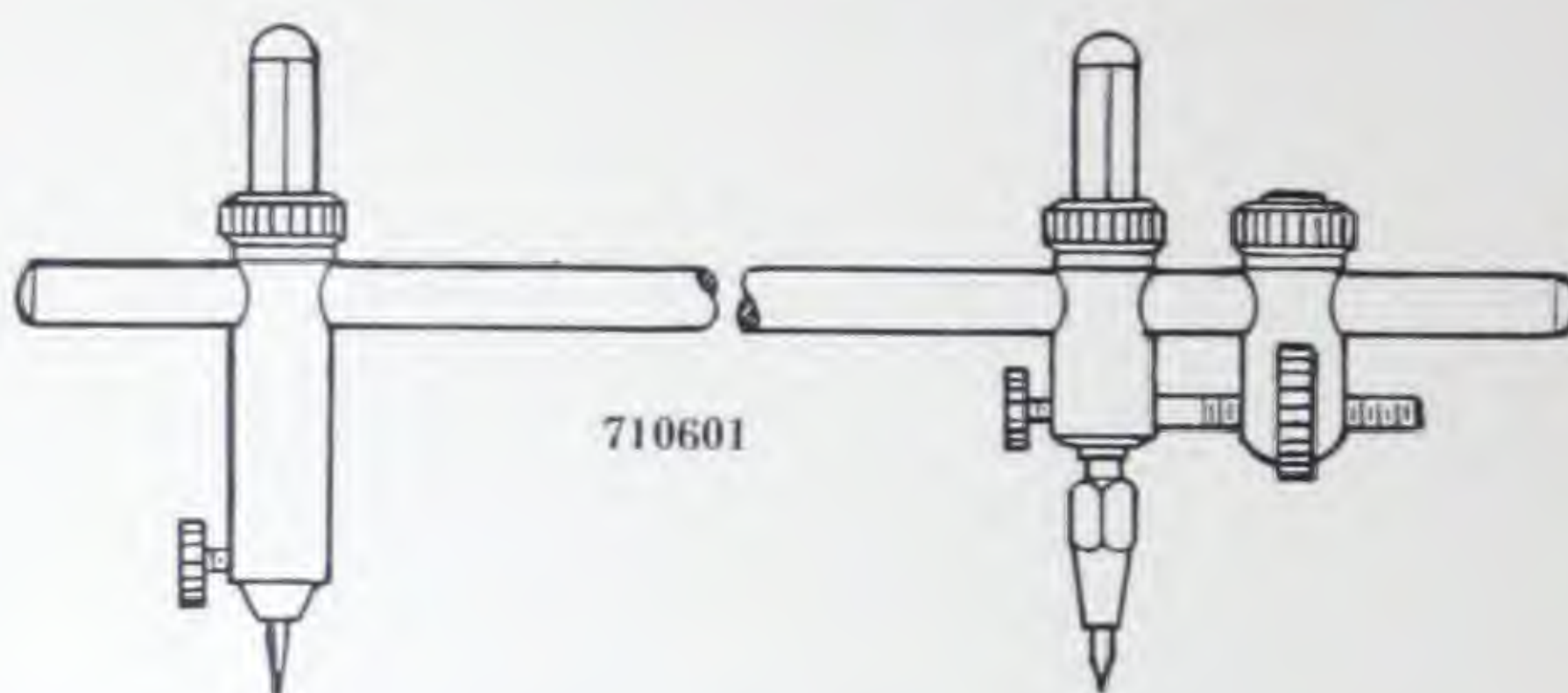
PRACTICAL

DURABLE

NON-CORRODING

SWIVEL GRIPS

MICROMETER ADJUSTMENT



Elliott Beam Compasses are simple in construction, easy to operate. The bars are made of aluminum alloy . . . strong, light and non-corroding. Compasses are furnished with a 12-inch bar, with extra bars available in lengths from 6 to 48 inches. These can be used individually or with No. 710602 Coupling for added length. Except for the anchor and scribing pin, which are made from specially treated steel, all other parts and fittings are brass, nickel-plated, giving them permanence, durability and non-corroding qualities. Pen, pencil and scribing pin parts are interchangeable.

|        |                                                                                               |      |
|--------|-----------------------------------------------------------------------------------------------|------|
| 710601 | Beam Compass, with 12-inch aluminum bar, swivel grips, scribing pin and micrometer adjustment | EACH |
| 710602 | Coupling, 2 inches long, brass nickel-plated                                                  |      |
| 710603 | Pen Part, made from specially treated steel                                                   |      |
| 710604 | 6-inch aluminum bar                                                                           |      |
| 710605 | 12-inch aluminum bar                                                                          |      |
| 710606 | 18-inch aluminum bar                                                                          |      |
| 710607 | 24-inch aluminum bar                                                                          |      |
| 710608 | 36-inch aluminum bar                                                                          |      |
| 710609 | 42-inch aluminum bar                                                                          |      |
| 710610 | 48-inch aluminum bar                                                                          |      |

### ERA BEAM COMPASS

A newly designed beam compass. Knurled thumb-rollers make fine adjustments rapidly. Adjustment firmly maintained by spring-loaded friction surfaces—no screws. Designed to minimize lead breakage. Changes from one beam to another made easily and quickly. Lies flat and prevents damage to drawings and other instruments. Made of aluminum alloy, anodized for durability and appearance—stainless, satin finish.

|        |                                                                                    |         |
|--------|------------------------------------------------------------------------------------|---------|
| 710611 | Era Beam Compass Set, pencil slide, center slide, 7-inch and 13-inch beams, in box | PER SET |
| 710612 | Pen slide                                                                          | EACH    |
| 710613 | 26-inch Beam                                                                       |         |
| 710614 | 38-inch Beam                                                                       |         |
| 710615 | 50-inch Beam                                                                       |         |

*See Price List Inside Back Cover*



## PROPORTIONAL DIVIDERS



71071

- 71071** 8-inch Proportional Divider; divided for lines and circles. Duraluminum frame with replaceable spring steel points; in velvet-lined leatherette case.

EACH . . . . .

- 71072** 8-inch Proportional Divider; divided for lines and circles, WITH RACK MOVEMENT. Duraluminum frame with replaceable spring steel points; in velvet-lined leatherette case.

EACH . . . . .

- 71073** 10-inch Proportional Divider; universal scale with vernier and RACK MOVEMENT; range of ratio 1:1 to 10:1 and chart for other settings; duraluminum frame with replaceable spring steel points; in velvet-lined leatherette case.

EACH . . . . .



71072

*See Price List Inside Back Cover*





## PLANIMETERS



71081

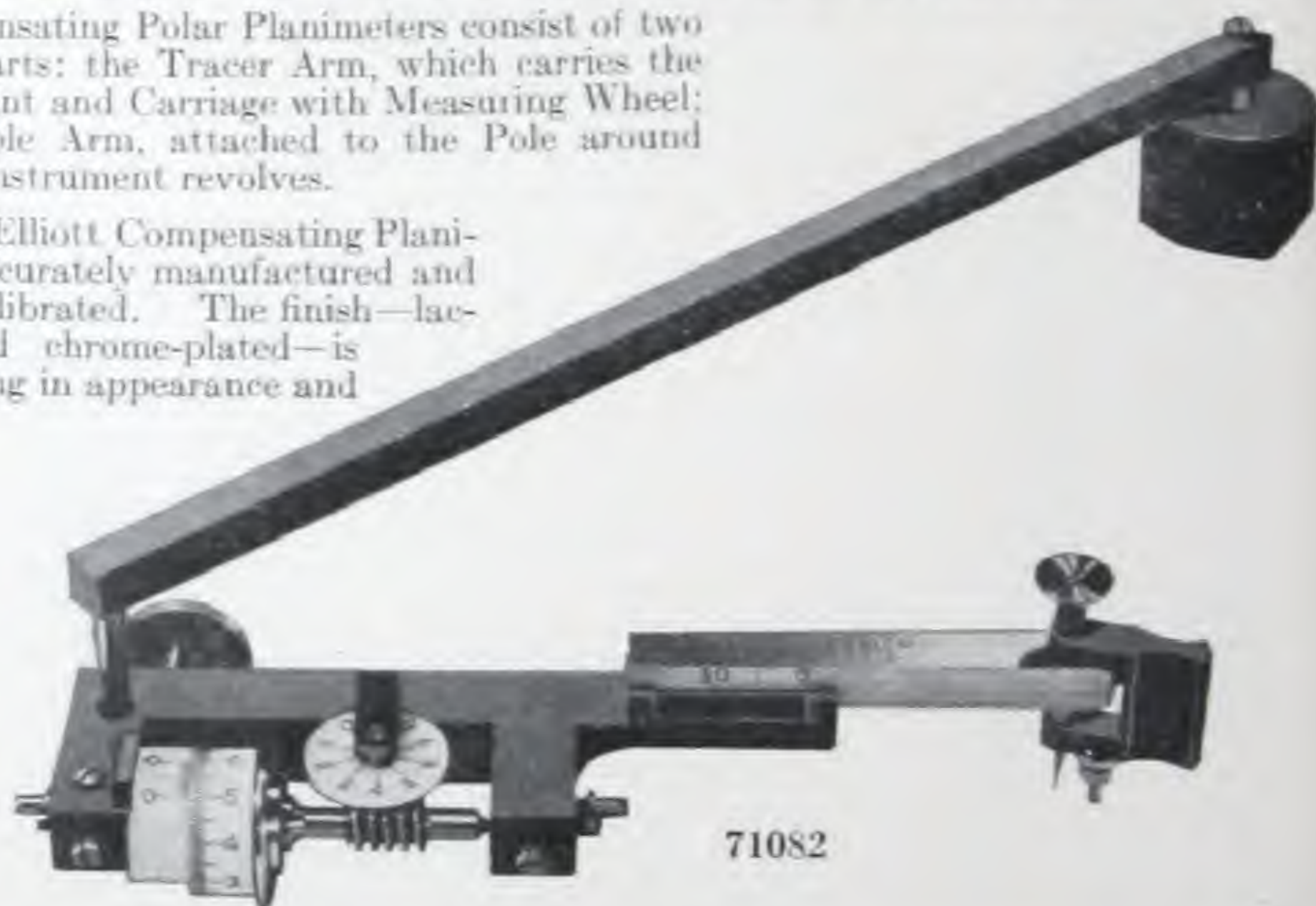
EACH

- 71081 Amisler's Polar Planimeter, German Silver, arranged for measurement of areas in square inches; viz., 10, 1, 1-10 and 1-100 square inches, with directions, in case

## COMPENSATING POLAR PLANIMETERS

Compensating Polar Planimeters consist of two principal parts: the Tracer Arm, which carries the Tracing Point and Carriage with Measuring Wheel; and the Pole Arm, attached to the Pole around which the instrument revolves.

Every Elliott Compensating Planimeter is accurately manufactured and carefully calibrated. The finish—lacquered and chrome-plated—is both pleasing in appearance and durable.



71082

EACH

- 71082 Elliott Compensating Polar Planimeter. Adjustable Tracer Arm approximately  $4\frac{1}{2}$  inches. Length of Pole Arm approximately  $7\frac{1}{2}$  inches. Improved Pole Weight. Smallest reading on Vernier .01 sq. in.

The Tracer Arm is of fixed length, permitting measurements of actual size, thus eliminating all computations. Sold in attractive velvet-lined case with Testing Rule included

- 71083 Elliott Compensating Polar Planimeter. Like No. 71082 but with adjustable Pole Arm

See Price List Inside Back Cover



## PLANIMETERS

The Polar Planimeter is the simplest and most convenient instrument for measuring the area of surfaces on drawings and plans. It is of greatest importance to engineers and others, as plots of ground, area of railroad profile, indicator diagrams, sectional areas of vessels, areas of displacement of floating bodies, etc., can be ascertaind very quickly.

Full directions are furnished with each instrument.



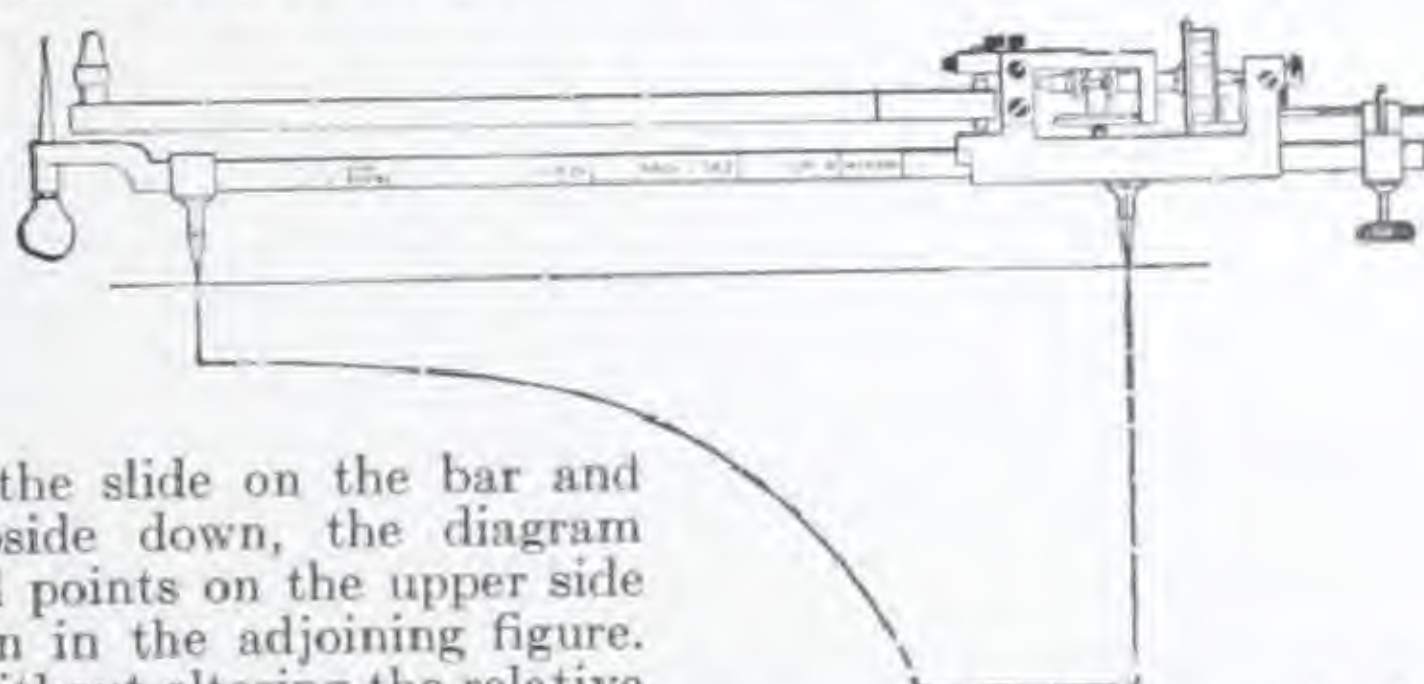
71091

71091

Amsler's Polar Planimeter, German Silver, arranged for every kind of measurement, with special arrangement for finding rapidly the mean height of indicator diagrams. In morocco case, with EACH directions.....

### Device for Finding the Mean Height of Indicator Diagrams

This device consists of two fine steel points, one attached to the upper side of the tracer arm and the other to the surface of the carriage in which this arm slides. To find the mean height of indicator



diagram, take, by shifting the slide on the bar and keeping the planimeter upside down, the diagram lengthwise between the steel points on the upper side of the instrument, as shown in the adjoining figure. Then place the planimeter without altering the relative position of slide and bar in the usual way upon the drawing—needle point outside the diagram—and follow the outline of the diagram with the tracing point. The difference of the readings at the beginning and at the end of the operation, divided by 0.4 is then the mean height of the diagram, expressed in inches.

Example:

Second reading..... 2.361  
First reading..... 1.913

(0.4) 0.488 equals 1.12 inches, equals mean height.

If the diagrams for up and down stroke are measured jointly, divide by 0.8 instead of 0.4.

Mean pressure equals mean height multiplied by scale of spring of indicator. Supposing the scale of the spring in the above example is "1" equals 80 pounds per square inch, then

$$\text{Mean pressure} = \frac{0.448 \times 80}{0.4} = 89.6 \text{ pounds per square inch.}$$

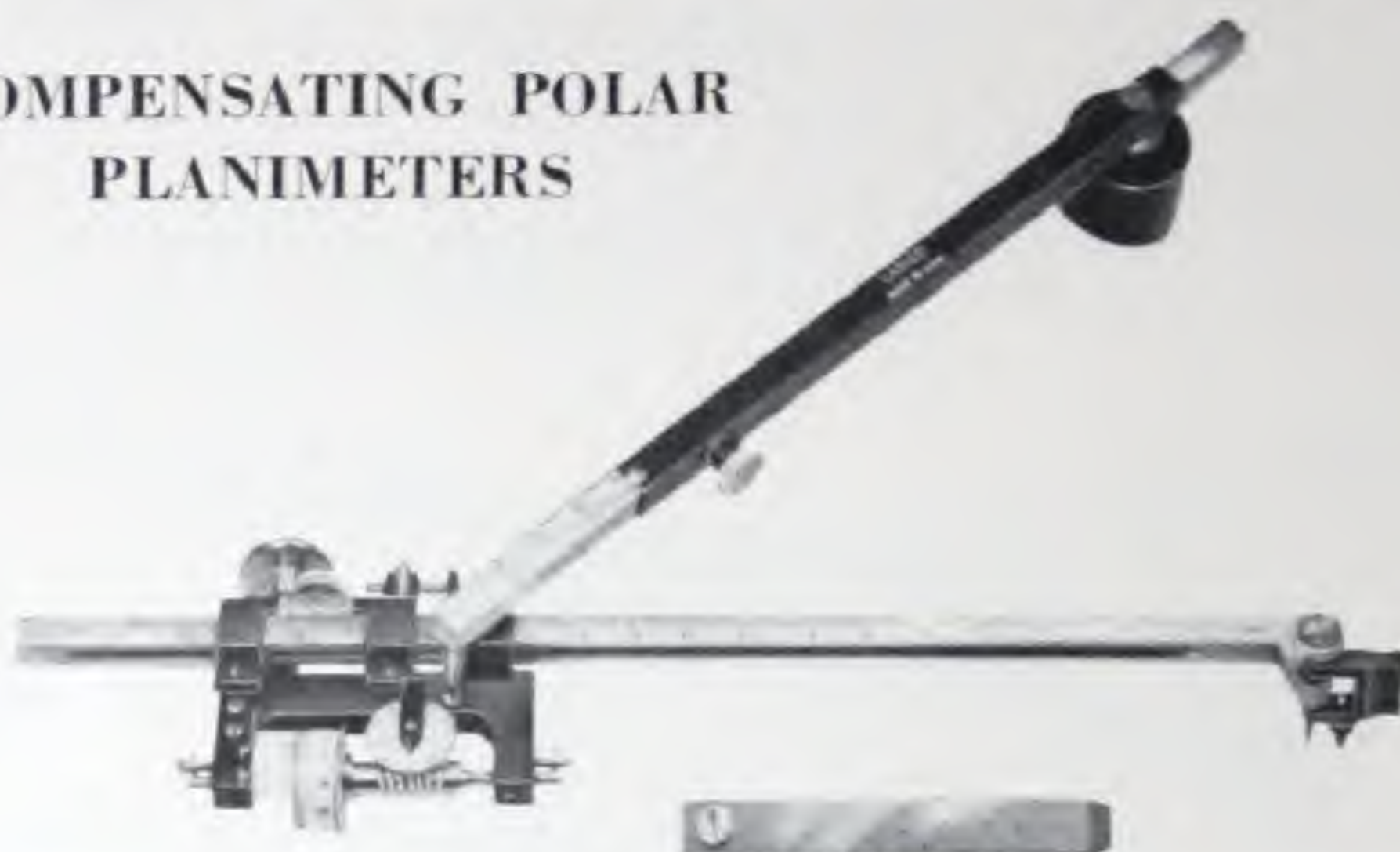
The number of pounds per inch of height being usually a multiple of 4, the arithmetical work is thus extremely simple.

*See Price List Inside Back Cover*





## COMPENSATING POLAR PLANIMETERS



EACH

- 71101 Elliott Compensating Polar Planimeter with graduated Tracer Arm approximately  $6\frac{1}{4}$  inches in length. Pole Arm is approximately  $7\frac{1}{2}$  inches in length. Tracer Arm is adjusted for Vernier unit of 0.015 sq. in. on scale 1:1. Improved Pole Weight. Winged handle with adjustable support. Furnished in Morocco velvet-lined case, with testing rule.
- 71102 Elliott Compensating Polar Planimeter like No. 71101 but with adjustable Pole Arm.
- 71103 Elliott Compensating Polar Planimeter with adjustable fully graduated Tracer Arm approximately  $7\frac{1}{2}$  inches in length. Pole Arm is approximately  $7\frac{1}{2}$  inches in length. This planimeter can be set in any scale in either inches or metric measurements. Furnished in Morocco velvet-lined case with Testing Rule. Scale:  $1'' = 5'$ ,  $1'' = 10'$ ,  $1'' = 25'$ ,  $1'' = 40'$ ,  $1'' = 50'$ ,  $1'' = 100'$ .
- 71104 Elliott Compensating Polar Planimeter, Like No. 71103 but with adjustable Pole Arm.

## ADJUSTABLE POLE ARM



- 71105 The adjustable Pole Arm is graduated for the various settings furnished with instrument, and when the instrument is used with the pole inside of a figure, it can be adjusted so that the constant is a round number (20,000) for all settings. The instrument is used in the same manner with the pole inside as when pole is on the outside, and by tracing the object with the pole on right and on left of tracer arm, and by taking the mean of the readings, greater areas can be accurately measured. The extensive range of the tracer arm, together with the extensibility of the pole arm, make it possible to measure very large objects with the pole outside. Very small surfaces can be measured by reducing the length of the pole and tracer arms. Approximate length of pole arm, 13 inches.

Adjustable Pole Arm

EACH

See Price List Inside Back Cover





## SUSPENDED PANTOGRAPHS

Reducing up to  
20 : 1

Enlarging up to  
1 : 20

Reproducing to  
even scale

Made in U. S. A.



**Pantograph**—Precision Suspended; 100 centimeter bars; for reducing up to 20 : 1, enlarging up to 1 : 20 or for reproducing to even scale. Hollow square metal bars connected by pivot joints, fully divided for all ratios; slides provided with verniers and micrometer adjustments; extra supporting bar and suspension wires for setting the pole within the parallelogram in which position it will reduce, enlarge, or reproduce. Pole and pencil points interchangeable; finger control mechanism for lifting and lowering the pencil; solid iron standard, cross-level, and leveling screws; two weights; adjustable foot-rest and spring-back tracing point; pencil holder with two weights, two steel points, one level, two boxes of leads, and instructions for use. Formulae for computing the setting of any ratio is engraved on the instrument. Instrument fits into compact 4-foot case; complete with extra case for standard.

EACH

71111 Suspended Pantograph.....

*See Price List Inside Back Cover*



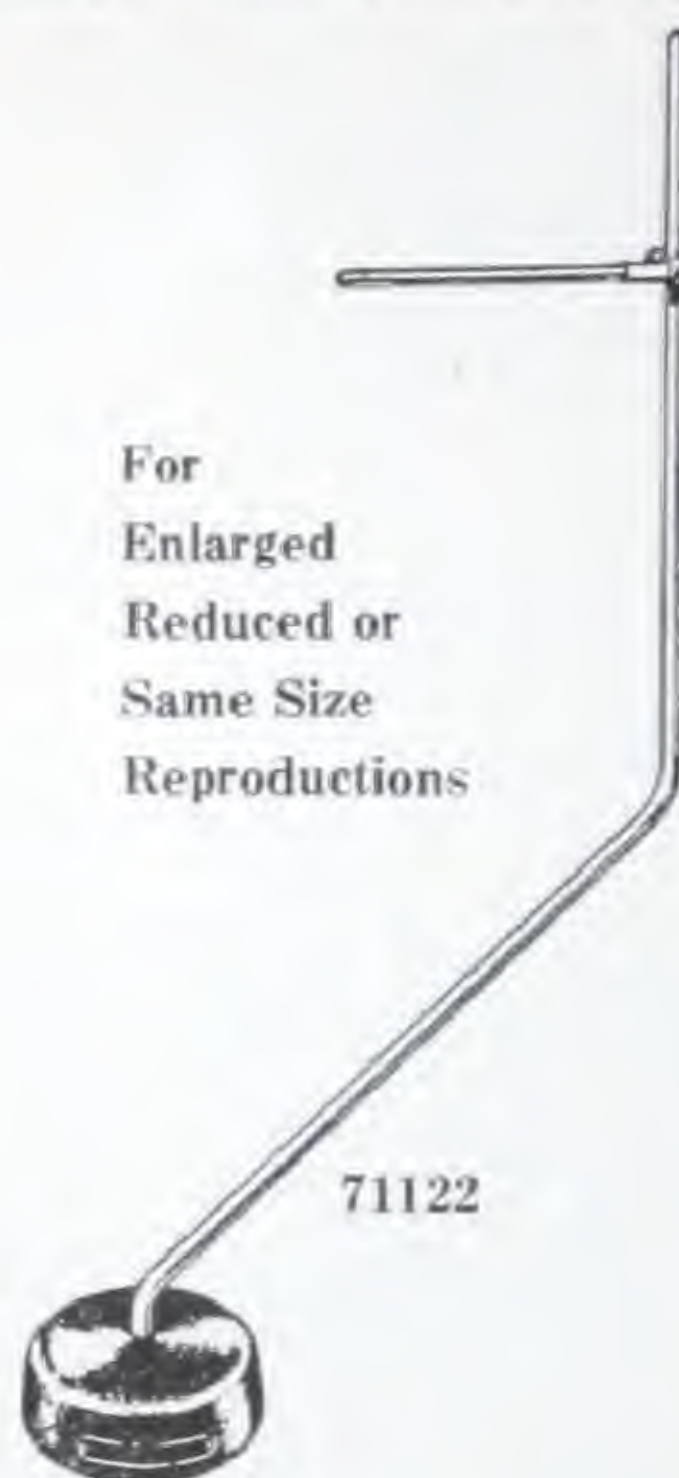
## PANTOGRAPH

For Enlarging and Reducing Drawings

Pantograph, rigidly constructed, all metal arms,  $\frac{1}{4}$ -inch square. Arms 21 inches long, adjustable for 21 different ratios, ranging from  $1\frac{1}{8}$  to 8, to reduce, enlarge, or same size.

71121 Metal Pantograph

EACH



For  
Enlarged  
Reduced or  
Same Size  
Reproductions

71122

## ELLIOTT CAMERA LUCIDA

FREELY PORTABLE . . . INSTANTLY ADJUSTABLE  
. . . EASY TO OPERATE . . . SIMPLE IN DESIGN . . .  
STURDY, FOOL-PROOF CONSTRUCTION

Until now, all previous Camera Lucida models clamped to the drawing board or table. This lack of freedom . . . movability . . . caused considerable inconvenience to the user and greatly limited the making of drawings. Now, the Elliott Camera Lucida can be placed anywhere desired simply by lifting it and setting it down. No adjustments. The Elliott Camera Lucida is freely portable . . . the new metal base makes it so.

EACH

71122 Elliott Camera Lucida

## CLAIRE-VUE CAMERA LUCIDA

Chrome Finish, with three-section telescopic stand, and spiral micrometer adjustment. Six auxilliary lenses for enlarging or reducing. Two-way tilt mount for lens and prism.

71123 Claire-Vue Camera Lucida

EACH



71123

See Price List Inside Back Cover



**SLIDE RULES  
VARIPHASE  
MANNHEIM TYPE**

In addition to the regular Scales A, B, C and D, this Variphase Mannheim Type Slide Rule has two other useful Scales, K-cube below Scale D and CI-inverted between Scales B and C.

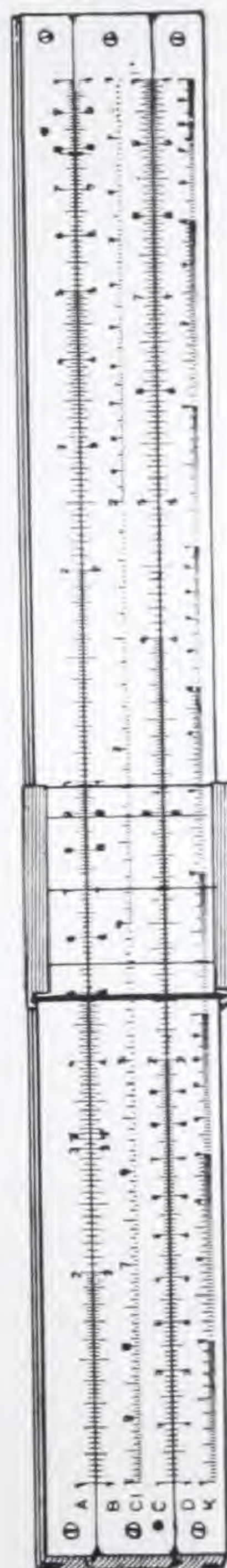
Scale K is three complete logarithmic scales in combination with C-D. Cubes and cube roots can be read directly on these Scales.

Scale C-I is an inverted single logarithmic, reciprocal scale. Three factors can be taken at one setting of the Slide and reciprocals can be read by means of the indicator. Almost any combination of three factors involving cubes, cube roots, squares and square roots can be taken.

The reverse side of the Slide has a Scale of Sines, Cosines, tangents and of equal parts, known as the S, L, and T Scales, indexed to be used with the other Scales. Together with the sliding indicator, these Scales allow almost any combination of three factors involving Squares, Cubes, roots and fractional powers or roots, along with logarithmic and trigonometric functions to be solved without resetting slide.

EACH

- 7112A1 Mannheim 5" Slide Rule (without CI and K Scale) in leather case . . . . .
- 7112A2 Variphase 5" Slide Rule in leather case . . . . .
- 7112A3 Variphase 10" Slide Rule in Morocco case . . . . .



7112A3

*See Price List Inside Back Cover*





## SLIDE RULES

### DUO PHASE

#### LOG LOG TYPE



Duo Phase Log Log Type Slide Rules are made with three different graduations as indicated below: Vector Type, Trig Type and Trigonometric Decimal Type, all of which are accurately machine divided on both sides of the Rule, on white celluloid.

Duo Phase Slide Rules have all the Scales of **7112A3** Vari Phase Rules and in addition have the Log Log Scales.

**7112B1** Duo Phase Log Log Vector Type Slide Rule. This 10 inch Slide Rule is of particular value to Electrical Engineers. It is adjustable and has a wide vision indicator and is supplied in a leather case . . .

**7112B2** Duo Phase Log Log Trig Type Slide Rule, with Trigonometrical Scales divided to read to degrees and minutes. 10 inch, adjustable, with wide vision indicator, in leather case . . .

**7112B3** Duo Phase Log Log Trigonometrical Decimal Type Slide Rule, same as No. **7112B2** but with Trigonometrical Scales divided to read to Degrees and Decimals of a Degree. . .

- 7112B4** Cursor for No. **7112A1** Slide Rule.
- 7112B5** Cursor for No. **7112A2** Slide Rule.
- 7112B6** Cursor for No. **7112A3** Slide Rule.
- 7112B7** Cursor for No. **7112B1** Slide Rule.
- 7112B8** Cursor for No. **7112B2** Slide Rule.
- 7112B9** Cursor for No. **7112B3** Slide Rule.

*See Price List Inside Back Cover*





## ELLIOTT-VEMCO DRAFTING MACHINES



### NO FINER, SMOOTHER WORKING MACHINE AVAILABLE

Built for Engineers by Engineers to produce the most efficient, accurate and flexible Drafting Machine. Embodying features never before found in any other machine.

Elliott-Vemco Drafting Machines eliminate the separate handling of protractors, T squares, triangles and scales, which is essential to modern high-speed production with accuracy.

Elliott-Vemco Drafting Machines enable you to increase capacity up to 40% without adding to the personnel of your present department.

Every effort has been put forth to make the Elliott-Vemco Drafting Machine versatile in operation yet durable and simple in construction. Bearings are sealed against dirt and dust and permanently lubricated, assuring constant accurate performance.

Made in three sizes to fit almost any board or table. The Standard 24-inch arm machine will cover up to 36 x 72-inch table, the 30-inch for tables up to 42 x 84 or 48 x 72, while the 36-inch arm machine will cover a table up to 48 x 120 inches.

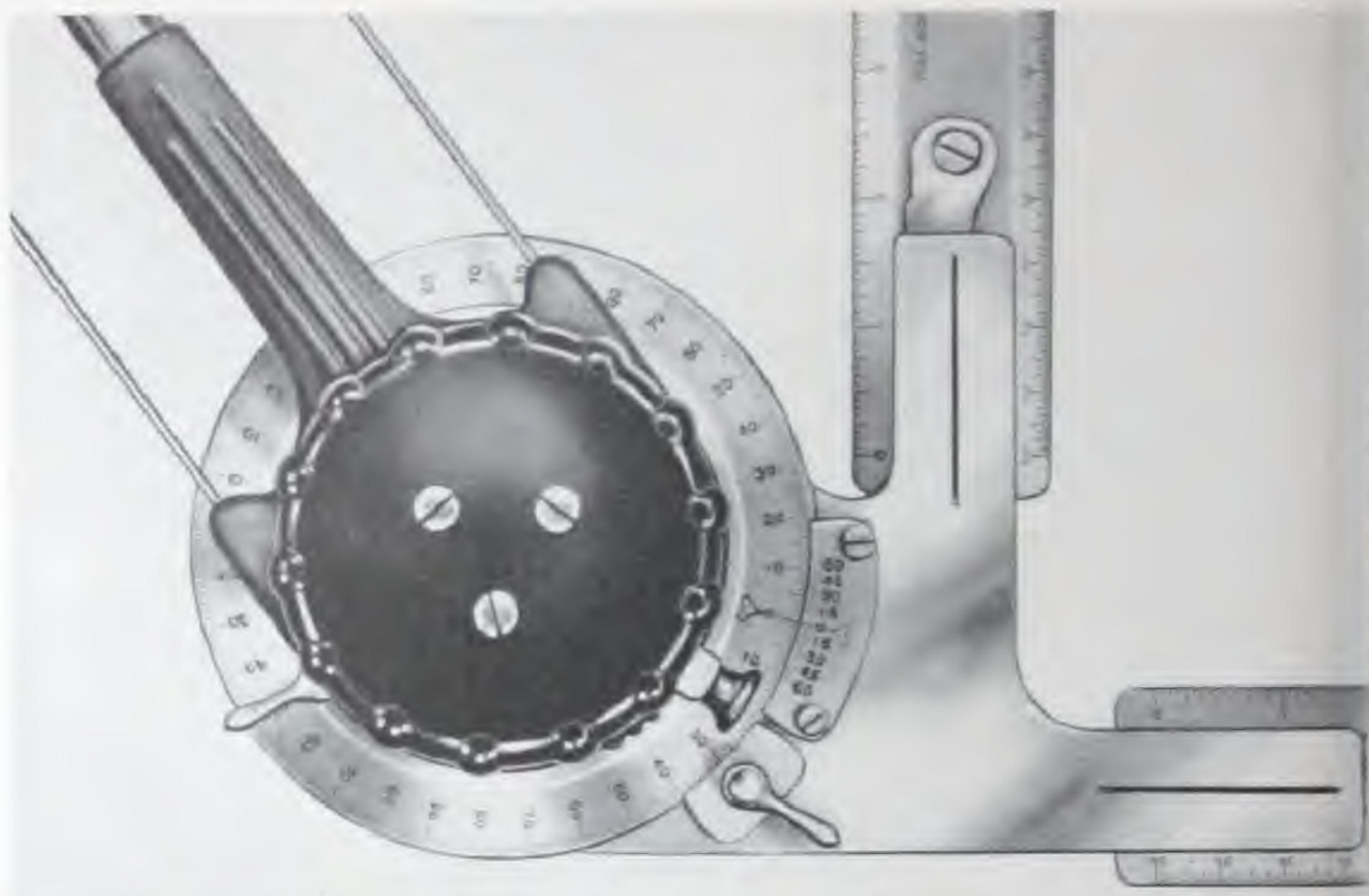
*See Price List Inside Back Cover*





## ELLIOTT-VEMCO DRAFTING MACHINES

### STANDARD MACHINE



The **Large Protractor** on **Elliott-Vemco** Machines is  $4\frac{3}{4}$  inches in diameter. Engine divided to 1 degree, a double vernier reads to 5 minutes, single row figures by quadrants. The graduations are of such width as to provide an optimum balance of accuracy and ease of reading.

The zero reading on the machine can be set quickly and accurately for a base-line of any orientation. The automatic indexing mechanism positively locks the protractor at any 15 degree position in the entire circle. This provides a **FULL BASE LINE SETTING** so that angles can readily be set off from a line in any direction.

A simple movement of the thumb piece disengages the automatic indexing mechanism for setting intermediate angles.

EACH

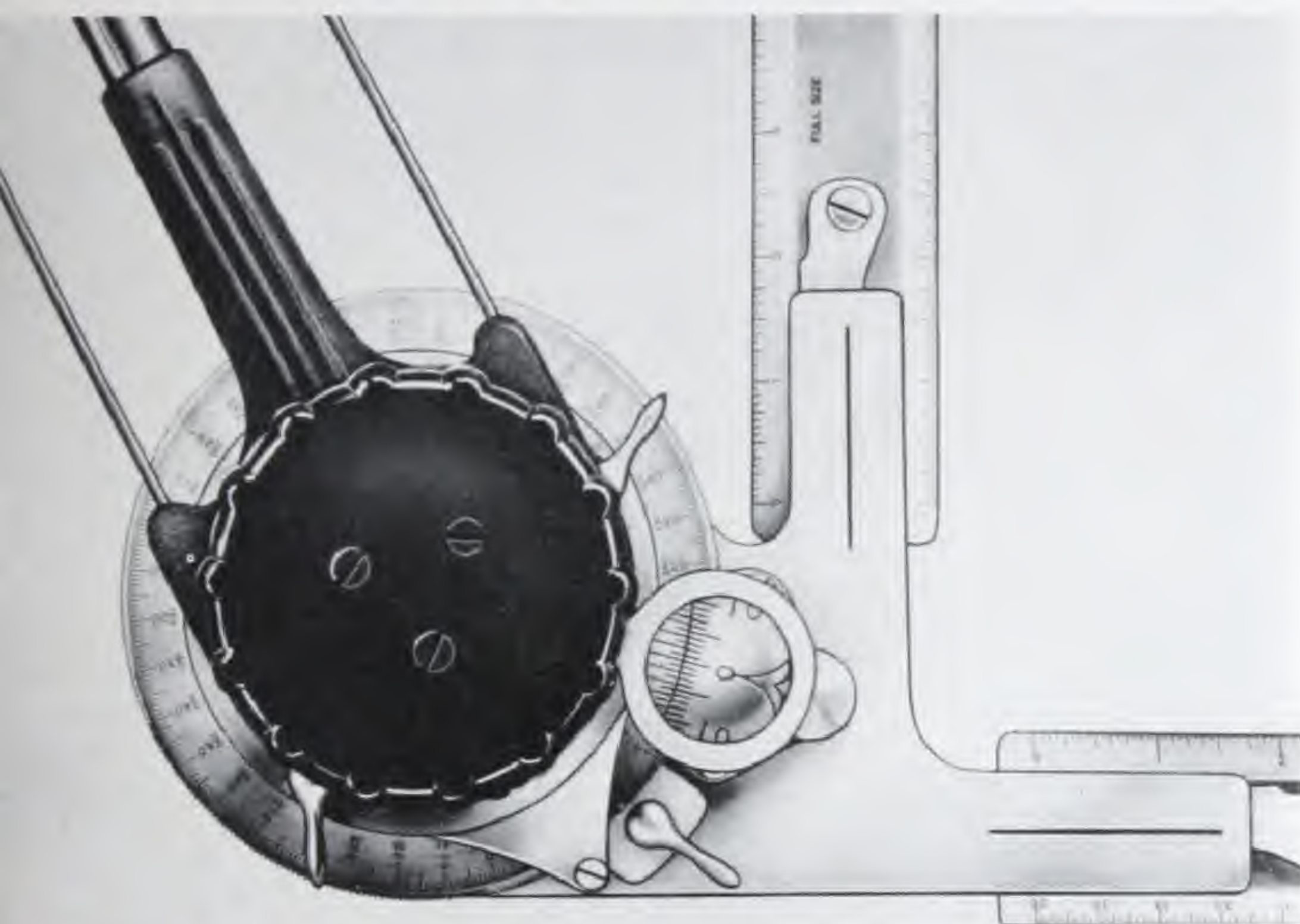
- 71141 Elliott-Vemco Standard Drafting Machine, 24-inch arms
- 71142 Elliott-Vemco Standard Drafting Machine, 30-inch arms
- 71143 Elliott-Vemco Standard Drafting Machine, 36-inch arms

*See Price List Inside Back Cover*



# ELLIOTT-VEMCO DRAFTING MACHINES

## CIVIL ENGINEER'S MACHINE



The protractor is divided to  $\frac{1}{2}$  degree; a double vernier reads to 1 minute; two rows of figures—one by quadrants, one from 0 to 360 degrees. Three clamps provide the following combinations: (1) Protractor can be clamped in any orientation while the protractor arm is free to be rotated, either directly or by means of the micrometer screw; (2) Protractor arm can be clamped in any orientation while the protractor is rotated by means of the micrometer screw; (3) Both protractor and arm can be rotated together and clamped in any orientation. This construction enables the engineer to plot accurately traverses or side shots; either by deflection angles, bearings, or azimuths; moreover, the engineer has a choice of several methods of operation. This machine can also be used to advantage in making the preliminary lay-out of a triangulation net. In a general way, it may be said that the machine repeats on the drafting table the motions of the transit in the field, the edge of a scale taking the place of the line of collimation.

Other features included in all **Elliott-Vemco** Machines: Strong table clamp, operated by a single large screw. Positive scale holder. Large drafting head handle, ridged for a firm, comfortable grip. Superior wingnuts which keep out dust, hold in lubricant.

EACH

- 71151 **Elliott-Vemco** Civil Engineers Machine, 24-inch arms
- 71152 **Elliott-Vemco** Civil Engineers Machine, 30-inch arms
- 71153 **Elliott-Vemco** Civil Engineers Machine, 36-inch arms

*See Price List Inside Back Cover*





## ELLIOTT-DEMCO DRAFTING MACHINES

### FEATURES THAT MAKE ELLIOTT-DEMCO MACHINES OUTSTANDING



**Full Circle Base-Line Setting:** The zero reading on the machine can be set quickly and accurately for a base-line of any orientation. Automatic indexing can be employed for setting off angles directly from the base-line at 15-degree intervals, or the automatic indexing can be disengaged and intermediate angles can be set off from the base-line.



**Smooth Elbow Brake:** The machine can be adjusted readily to prevent sliding on an inclined table by means of a thumb-screw at the elbow. Braking action is afforded by large discs of high-quality brake lining. A similar brake at the support increases the braking action when the table is more steeply inclined.



**Central Skid Button:** The drafting head is supported by a large, centrally-positioned skid button about which the protractor arm can be rotated smoothly without any drag or tendency toward eccentric motion. This skid button is of a high-grade plastic that will not mar the drawing paper, and can be furnished to accommodate scales and straight edges of different thicknesses.



**Flexibility:** Each of the tubular arms is so articulated with the brackets at either end that the drafting head adjusts itself to irregularities in the drawing surface and the scales always lie flat. Moreover, the scales can easily be lifted over the edges of the drawing paper mounted on the board.



**Convenient Indexing:** Indexing is controlled by a thumb-piece conveniently located in the handle. The automatic indexing mechanism positively locks the protractor arm at any of the 15-degree positions in the entire circle. A simple movement of the thumb-piece disengages the automatic indexing mechanism and facilitates the setting of intermediate angles.



# UNIVERSAL **BOARDMASTER** DRAFTING MACHINES



71171

Universal Boardmaster Drafting Machines are built for greater accuracy and rigidity through the use of finer and longer-lasting material.

They are Modern, Rugged and Efficient.

Made in two sizes, 24-inch and 30-inch arms, to cover a wide range of board sizes.

The **Boardmaster** can be used on horizontal, sloping or vertical boards by merely adding Cartridge-type Stabilizers (page 118) or the Spring Counter Balance (page 119) to the above machine.

EACH

1171 Boardmaster Drafting Machine, 24-inch arms .....

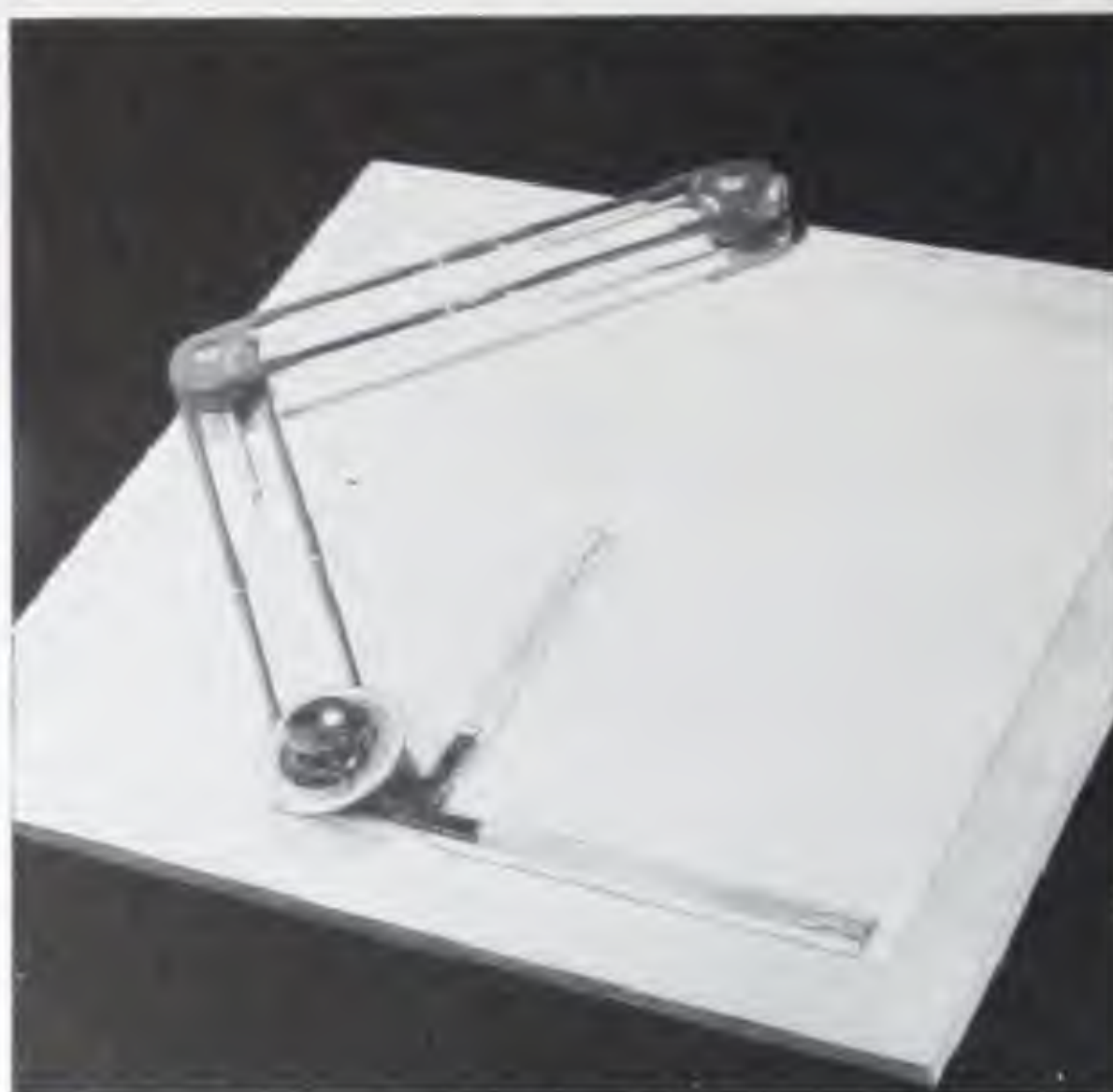
1172 Boardmaster Drafting Machine, 30-inch arms .....

A special catalog of these machines mailed upon request

*See Price List Inside Back Cover*



## UNIVERSAL *BOARDMASTER* DRAFTING MACHINES



**71181**

The Universal Boardmaster can be used on sloping boards by merely attaching the cleverly designed cartridge-type stabilizers.

Two cartridge styles are available: No. 1 for use on upper arm, No. 2 for use on lower arm. When applied to any standard 24-inch Boardmaster, powerful, adjustable springs correctly balance the arms in all positions up to 20° board angle. Slightly smaller angle on 30-inch machines.

- |       |                                                                               |      |
|-------|-------------------------------------------------------------------------------|------|
|       |                                                                               | EACH |
| 71181 | Boardmaster, 24-inch arms, with one cartridge for boards inclined up to 10°   |      |
| 71182 | Boardmaster, 24-inch arms, with two cartridges, for boards inclined up to 20° |      |
| 71183 | Boardmaster, 30-inch arms, with one cartridge, for boards inclined up to 8°   |      |
| 71184 | Boardmaster, 30-inch arms, with two cartridges, for boards inclined up to 16° |      |
| 71185 | Cartridge Stabilizer for use on upper arm on 24-inch or 30-inch arm machine   |      |
| 71186 | Cartridge Stabilizer for use on lower arm on 24-inch or 30-inch arm machine   |      |



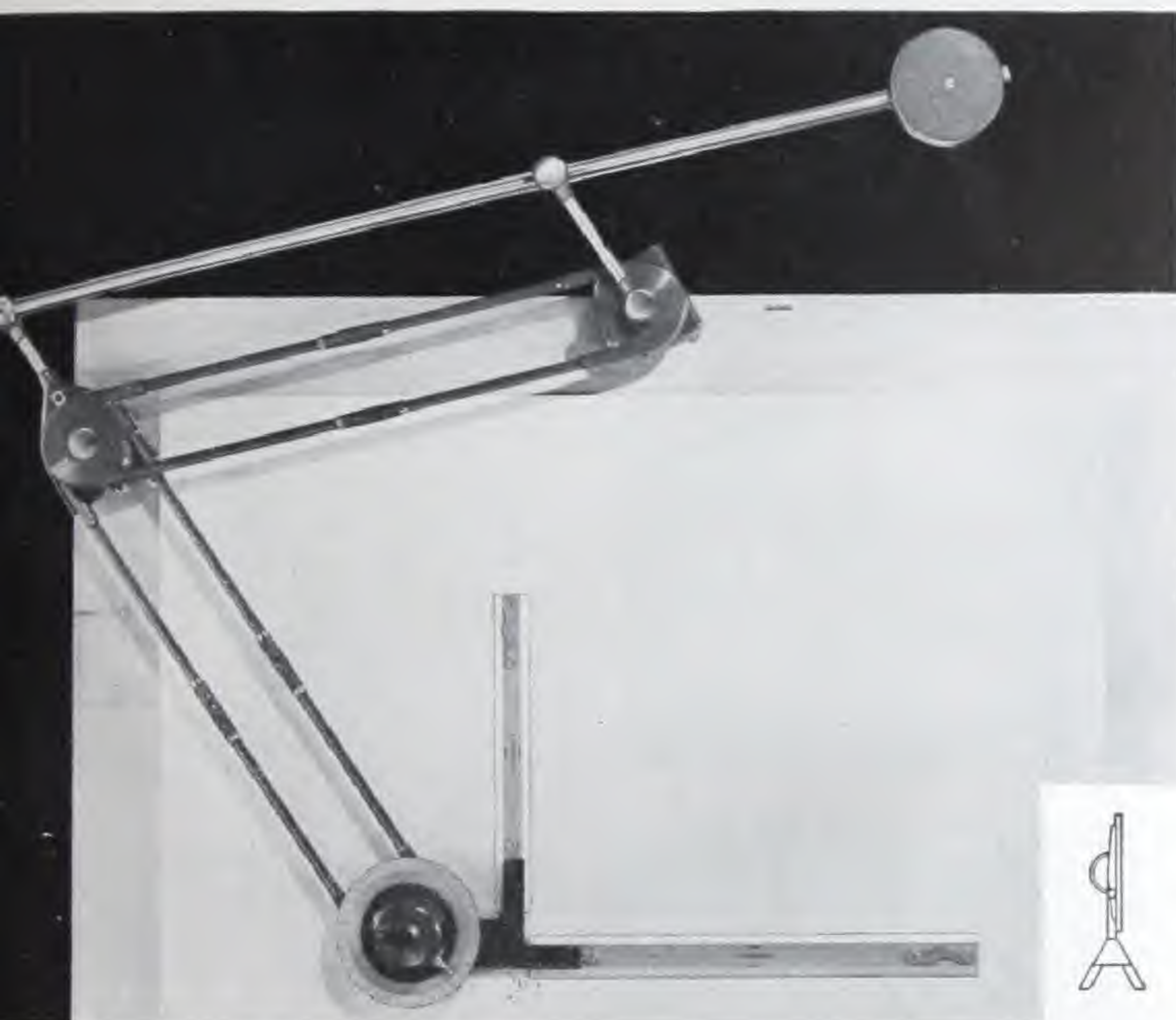
**Cartridge-type Stabilizer Illustrated**

A special catalogue on these machines mailed upon request.

See Price List Inside Back Cover



# UNIVERSAL **BOARDMASTER** DRAFTING MACHINES



71191

## UNIVERSAL BOARDMASTER WITH WEIGHT-STABILIZER For Board Angles Up To Vertical

A rugged, durable attachment, readily applied to any **Boardmaster**, provides correct, frictionless balancing at all board angles from horizontal to vertical, automatically.

Ideal for use on modern, adjustable type, vertical boards. Available in two sizes, for use on 24-inch or 30-inch machines.

|                                                                           | EACH |
|---------------------------------------------------------------------------|------|
| 71191 Boardmaster Drafting Machine, 24-inch arms, with Weight Stabilizer. |      |
| 71192 Boardmaster Drafting Machine, 30-inch arms, with Weight Stabilizer. |      |
| 71193 Weight Stabilizer for 24-inch arm Boardmaster.                      |      |
| 71194 Weight Stabilizer for 30-inch arm Boardmaster.                      |      |

A special catalog on these machines mailed upon request

*See Price List Inside Back Cover*





B. K. ELLIOTT COMPANY



## UNIVERSAL **BOARDMASTER** DRAFTING MACHINES



### CONSTRUCTION FEATURES

**Rugged Construction**—Improved indexing and clamping with fewer, stronger parts. Heavy vertical cross-sections. Matched, pre-loaded, sealed precision ball bearings.



**Full Visibility**—Overarm construction for complete 360° visibility of 5 1/4-inch diameter protractor dial and vernier. All controls are located above the arm, allowing absolute lefthand control of all operations.



**Ground Index Rings**—Hardened steel Index Rings, ground to gauge tolerances, combined with an automatic take-up to compensate for wear, mean longer machine life and finer angular accuracy.

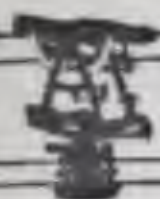


**Replaceable Fully-Enclosed Bands**—Bands are completely enclosed for maximum protection, yet are easily replaced by threading through each half of the rigid strut and snapping the ends together. The bands ride on **Diamond Turned Pulleys**—accurately turned, internally braced pulleys guarantee lasting parallelism.

A special catalog on these machines mailed upon request

See Price List Inside Back Cover

~~~~~ [ PAGE 120 ] ~~~~~

DRAFTING MACHINE SCALES

ELLIOTT-VEMCO METAL SCALES

Elliott-Vemco Metal Scales are formed from hard aluminum sheet and possess great rigidity, while at the same time they are of unusually light weight. Moreover, only the edges touch the drawing surface and there is practically no tendency to grind dirt into the drawing. A satin finish, made permanent by anodizing, is of such grain as to eliminate annoying glare. All scales are full divided.



71221

UNIVERSAL METAL SCALES

Aluminum Alloy Scales: Durable, glareless, machine-divided and finished in a new super-tough anodized coating that is clean, hard and permanent.



712213

BOXWOOD WHITE EDGE SCALES

712225 Plastic Edged Boxwood Scales: Well seasoned, machine-divided for accuracy, with black graduations on white background for easy reading.

TRANSPARENT PLASTIC SCALES

712237 Fully Transparent plastic. Engine divided graduations on bottom of scale, to avoid parallax errors.

STRAIGHT EDGES

Elliott-Vemco Straight Edges are formed of the same hard aluminum sheet as the Elliott-Vemco Scales. Satin finish. Both edges are beveled. Two chuck plates.

Universal Metal Straight Edges are similar to their scales in construction. One chuck plate.

Maple Blade, Transparent Edges, Straight Edges. One chuck plate, not beveled.

Bakelite Blade, Clear Plastic edges. One chuck plate, not beveled.



712249



SCALES FOR DRAFTING MACHINES

| GRADUATIONS | LENGTH | VEMCO METAL | UNIVERSAL METAL | BOXWOOD WHITE EDGE | TRANSPARENT PLASTIC |
|---------------------------------|--------|-------------|-----------------|--------------------|---------------------|
| Full Size and Half Size | 12 | 712201 | 712213 | 712225 | 712237 |
| | 18 | | | | |
| Full, Half and Quarter Size | 12 | 712202 | 712214 | 712226 | 712238 |
| | 18 | | | | |
| 3" and 1 1/2" to 1' | 12 | 712203 | 712215 | 712227 | 712239 |
| | 18 | | | | |
| 3/4" and 3/8" to 1' | 12 | 712204 | 712216 | 712228 | 712240 |
| | 18 | | | | |
| 1" and 1/2" to 1' | 12 | 712205 | 712217 | 712229 | 712241 |
| | 18 | | | | |
| 1/4" and 1/8" to 1' | 12 | 712206 | 712218 | 712230 | 712242 |
| | 18 | | | | |
| 3", 1 1/2", 3/4" and 3/8" to 1' | 12 | 712207 | 712219 | 712231 | 712243 |
| | 18 | | | | |
| 1", 1/2", 1/4" and 1/8" to 1' | 12 | 712208 | 712220 | 712232 | 712244 |
| | 18 | | | | |
| 10 and 50 parts to 1" | 12 | 712209 | 712221 | 712233 | 712245 |
| | 18 | | | | |
| 20 and 40 parts to 1" | 12 | 712210 | 712222 | 712234 | 712246 |
| | 18 | | | | |
| 30 and 60 parts to 1" | 12 | 712211 | 712223 | 712235 | 712247 |
| | 18 | | | | |
| MM and 1/2 MM | 18 | 712212 | 712224 | 712236 | 712248 |

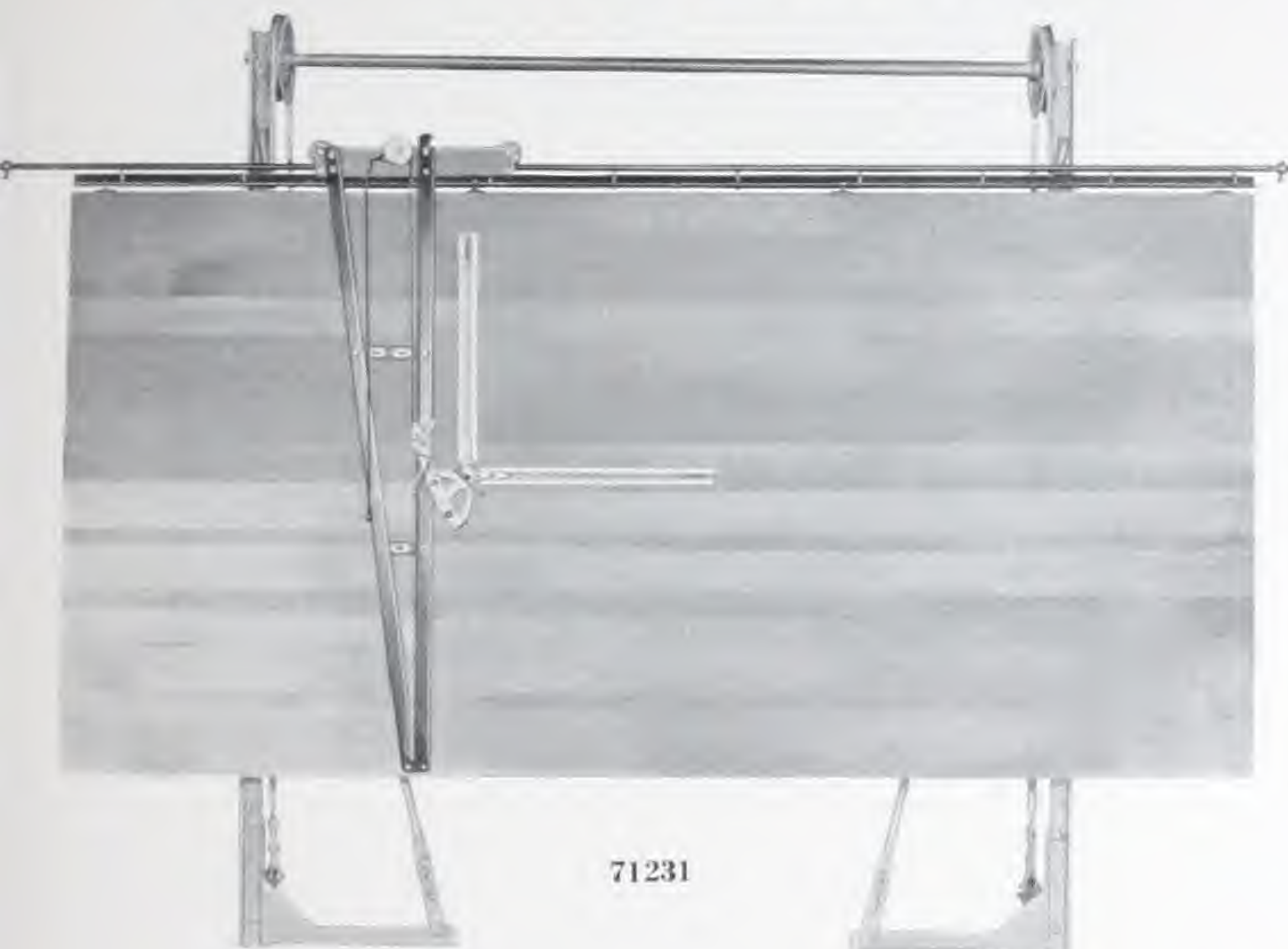
STRAIGHT EDGES

| | 12" LENGTH | 18" LENGTH | 24" LENGTH | 36" LENGTH |
|--|------------|------------|------------|------------|
| 712249 Aluminum Alloy, Universal | EACH | | | |
| 712250 Aluminum Alloy, Vemco | EACH | | | |
| 712251 Maple Blade, Transparent Edge | EACH | | | |
| 712252 Black Plastic, Transparent Edge | EACH | | | |

See Price List Inside Back Cover

"EMMERT"

STAINLESS STEEL DRAFTING MACHINES



"Emmert" Drafting Machines are made in sizes to mount on Drawing Boards from 24 inches to 144 inches in width and any length.

Made to travel horizontally on a stainless steel track mounted on top of board the protractor head and scales are readily adjusted vertically on the reinforced blade.

The "Emmert" Drafting Machine is ideal when laying out or making full size details of large units where large boards are used vertically, as the entire board surface can be covered.

The machine is counter balanced throughout assuring perfect performance in any position from horizontal to vertical.

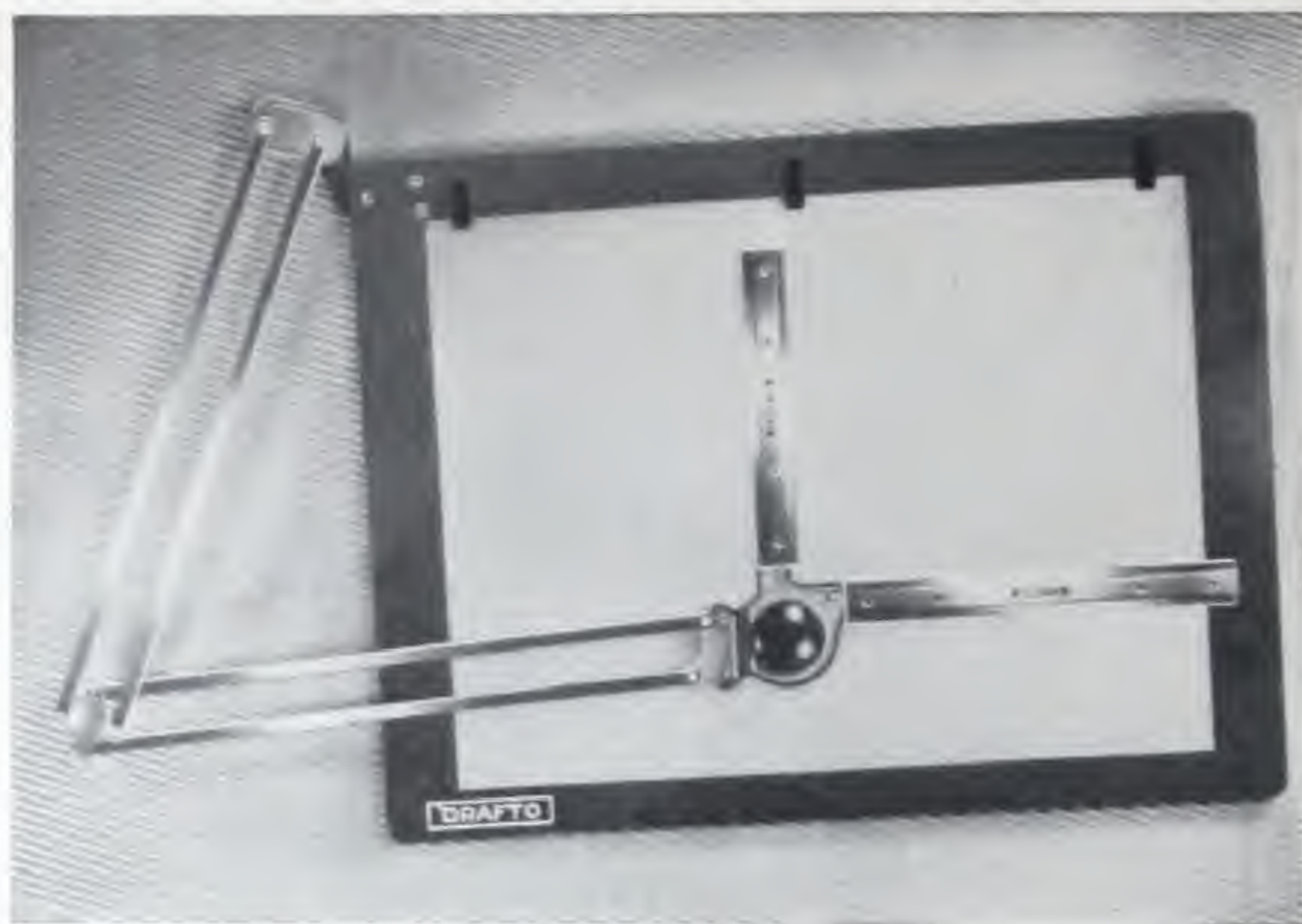
"Emmert" machines can be furnished for mounting on your own board or with board of any required size with or without the adjustable vertical stand as illustrated.

Complete catalog covering "Emmert" Drafting Machines furnished upon request.

71231 Emmert Drafting Machine (Without Scales and Stainless Steel Track) . . . EACH.

See Price List Inside Back Cover

DRAFTO DRAWING MACHINE



71254

In modern drafting rooms the Drafting Machine is standard equipment. It has proved its advantage over the obsolete T-square and triangle by giving the freedom of thought and action and the speed engineering service needs to meet the demands of modern competition.



71253

Drafto is a complete drawing machine giving these advantages in a compact and **Portable** unit. **Drafto** is just as sturdy and serviceable a tool as the modern portable typewriter. In making it compact and portable no essential feature of the larger, permanently located drafting machine has been sacrificed.

Drafto is a handy, time-saving tool for engineers, architects, students, salesmen, executives, any one whose work or study requires the making of drawings or sketches quickly. **Drafto** can be carried with you wherever you go, enabling you to make drawings of your ideas on the job. There's a size for every need.

See Price List Inside Back Cover

DRAFTO

**COMPACT
and
STURDY**

**PORTABLE
DRAWING
MACHINES**

**A SIZE FOR
EVERY NEED**

Drafto operates smoothly and easily. All you need is a pencil and a compass; no scales, no triangles, no T-square, no thumb tacks. The scales reach all portions of the paper. The paper clamps hold securely either a single sheet or a pad. The **Drafto** mechanism is mounted on a light-weight, sturdy, tempered Masonite board selected because it provides a hard and uniformly smooth support. All edges are rounded. **Drafto** has been expertly designed. Parts are manufactured and assembled by precision methods. Steel arms have an oxidized finish and the protractor and scales a flat silver finish that sets off sharply the black and deeply etched graduations.

The integral scales are made in one piece and permanently attached to the protractor. Protractor is graduated to 2° and the graduations are deep and clear. Setting it is a simple and natural operation. The clamping device produces equal locking tension at all angles and prevents slippage that might spoil a partly-finished drawing. Both scales can be moved 180°, a complete half-rotation, an invaluable feature in making angular divisions of a circle or other figure. Because the two scales are made in one piece, they are never out of square with each other.

The vertical scale is 4" long and the horizontal 5". Longer detachable scales can be furnished that can be quickly mounted on the shorter integral scales.

| SIZE No. | DESCRIPTION | EACH |
|--------------------|--|------|
| 1251 (10-H) | Takes 9" x 12" sheets..... | |
| 1252 (15-H) | Takes 10" x 15" sheets..... | |
| 1253 (15-V) | Takes 10" x 15" sheets..... | |
| 1254 (20-H-6-8) | Takes 12" x 18" sheets; with 6" and 8" detachable scales.. | |
| 1255 (20-V-6-8) | Takes 12" x 18" sheets; with 6" and 8" detachable scales.. | |
| 1256 (20-U-6-8) | Unmounted—without board or paper clamps; with 6" and 8" detachable scales..... | |
| 1257 (20-WH-6-8) | Takes 12" x 18" sheets, on wooden board, 6" and 8" detachable scales..... | |
| 1258 (25-H-8-10) | Takes 15" x 20" sheets; with 8" and 10" detachable scales | |
| 1259 (25-U-8-10) | Unmounted—without board or paper clamps; with mounting bracket and 8" and 10" detachable scales..... | |
| 12510 (25-C-8-12) | Takes 18" x 24" sheets; mounted on wood board; with 8" and 12" detachable scales..... | |
| 12511 (25-CU-8-12) | Unmounted—without board; with mounting bracket and 8" and 12" detachable scales..... | |

SCALES AVAILABLE IN 4 STYLES

$\frac{1}{8}$ — $\frac{1}{4}$ — $\frac{1}{2}$ —1 in. to the foot.
Half and full size.

10 x 50 Parts to the Inch.
MM and Half MM.

| Detachable Scales
(with clips) EACH | | Inking Edges
Transparent Celluloid
(with clips) EACH | |
|--|----------|--|----------|
| 12512 | 6"..... | 712516 | 6"..... |
| 12513 | 8"..... | 712517 | 10"..... |
| 12514 | 10"..... | | |
| 12515 | 12"..... | | |

Descriptive pamphlet sent on request

NOTE—Numbers shown in (—) represent manufacturer's numbers

See Price List Inside Back Cover



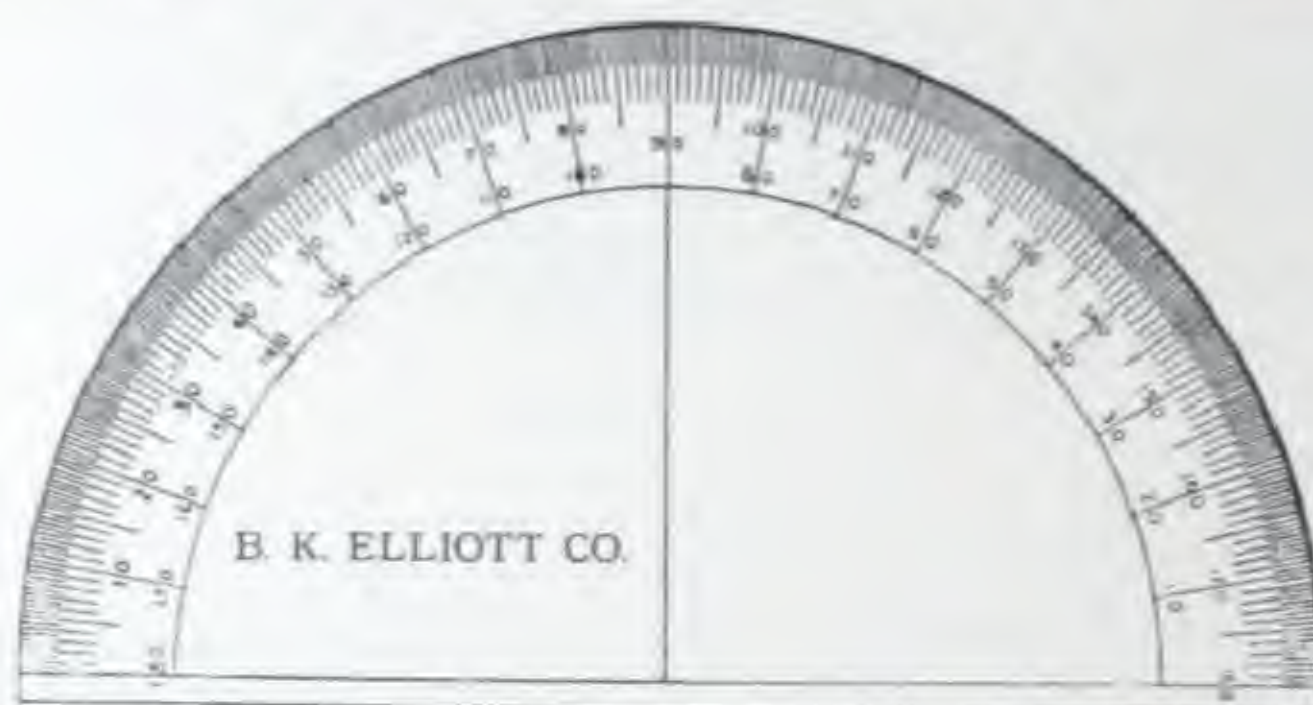
TRANSPARENT AMBER PROTRACTORS



- 712601 Celluloid Ruler and Scale Protractor, 10 x 50 scales.....
 712602 Celluloid Ruler and Scale Protractor, 10 x 20 scales.....
 712603 Celluloid Ruler and Scale Protractor, 30 x 40 scales.....
 712604 Celluloid Ruler and Scale Protractor, inch and metric scales.....
 712605 Celluloid Ruler and Scale Protractor, inch and tenth scales.....
 712606 Celluloid Ruler and Scale Protractor, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{2}$ and 1-inch scales.....

EACH

Made of Transparent celluloid, 6 inches in length; combines scale and protractor advantages; lines can be drawn at any desired angle or parallel to each other without measuring. An inexpensive and useful protractor for architects, engineers and surveyors. Excellent for recording notes in field, transit or level books when making surveys.



- 712607 Celluloid Protractor, transparent, half circle, $\frac{1}{2}$ -degree, 4".....
 712608 Celluloid Protractor, transparent, half circle, $\frac{1}{2}$ -degree, 5".....
 712609 Celluloid Protractor, transparent, half circle, $\frac{1}{2}$ -degree, 6".....
 712610 Celluloid Protractor, transparent, half circle, $\frac{1}{2}$ -degree, 7".....
 712611 Celluloid Protractor, transparent, half circle, $\frac{1}{2}$ -degree, 8".....
 712612 Celluloid Protractor, transparent, half circle, $\frac{1}{2}$ -degree, 9".....
 712613 Celluloid Protractor, transparent, circle, $\frac{1}{2}$ -degree, 6".....

EACH



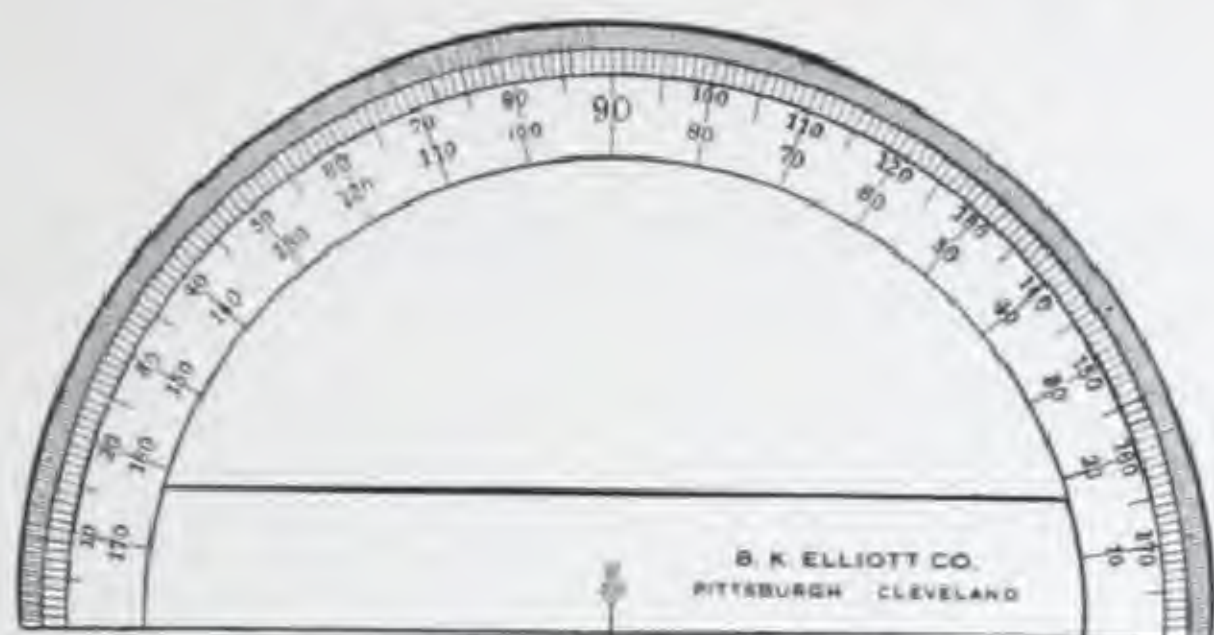
EXTRA THICKNESS, APPROXIMATELY .090

- 712614 Semicircular Celluloid Protractor, 6", beveled edge, $\frac{1}{2}$ -degree.....
 712615 Semicircular Celluloid Protractor, 8", beveled edge, $\frac{1}{2}$ -degree.....
 712616 Circular Celluloid Protractor, 6", beveled edge, $\frac{1}{2}$ -degree.....
 712617 Circular Celluloid Protractor, 8", beveled edge, $\frac{1}{2}$ -degree.....
 712618 Circular Celluloid Protractor, 10", beveled edge, $\frac{1}{2}$ -degree.....

EACH

See Price List Inside Back Cover

BRASS PROTRACTORS

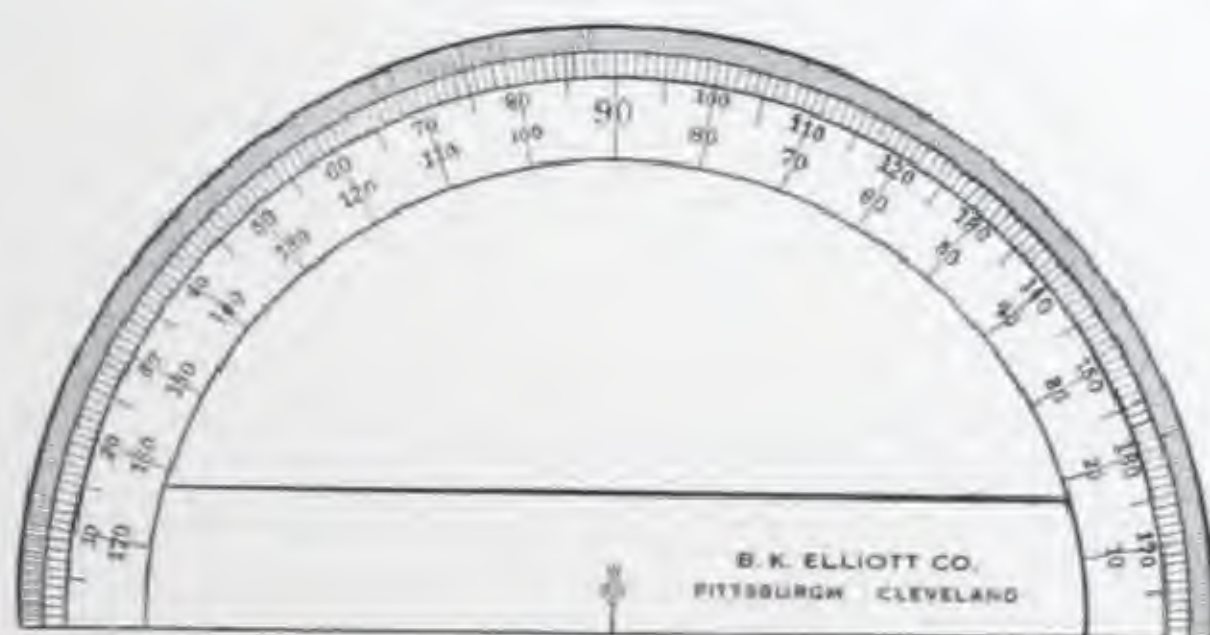


71273

EACH

- 71271 Semicircular, Brass, 3½-inch diameter, 1 degree.
- 71272 Semicircular, Brass, 4¼-inch diameter, 1 degree.
- 71273 Semicircular, Brass, 5-inch diameter, ½ degree.
- 71274 Semicircular, Brass, 6-inch diameter, ½ degree.

GERMAN SILVER PROTRACTORS



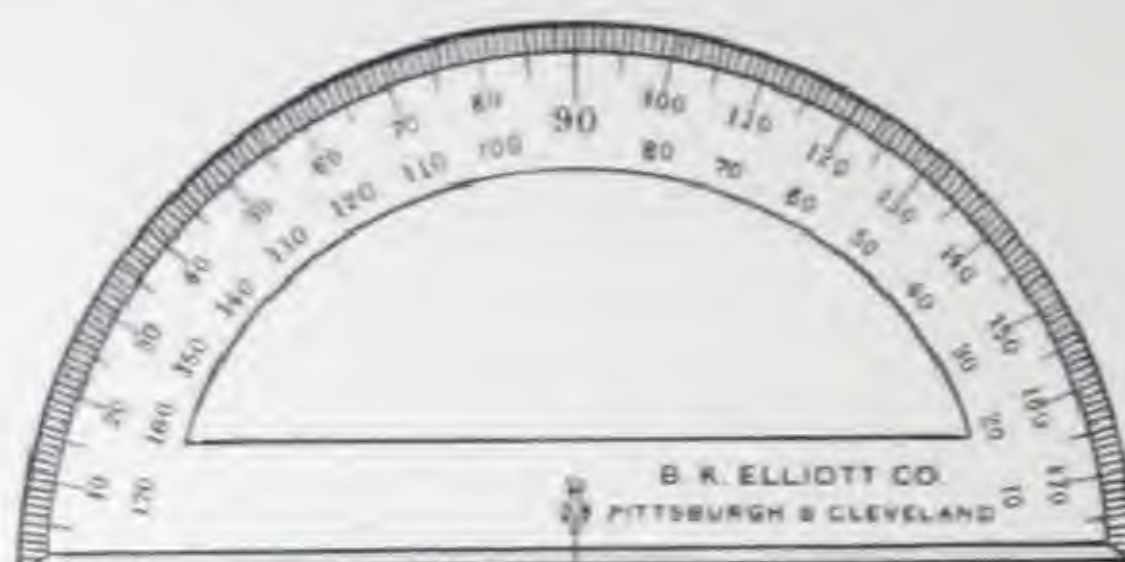
71275

EACH

- 71275 Semicircular, German Silver, 5-inch diameter, ½ degree.
- 71276 Semicircular, German Silver, 6-inch diameter, ½ degree.
- 71277 Semicircular, German Silver, 7-inch diameter, ½-degree.
- 71278 Semicircular, German Silver, 8-inch diameter, ½ degree.

See Price List Inside Back Cover

GERMAN SILVER PROTRACTORS

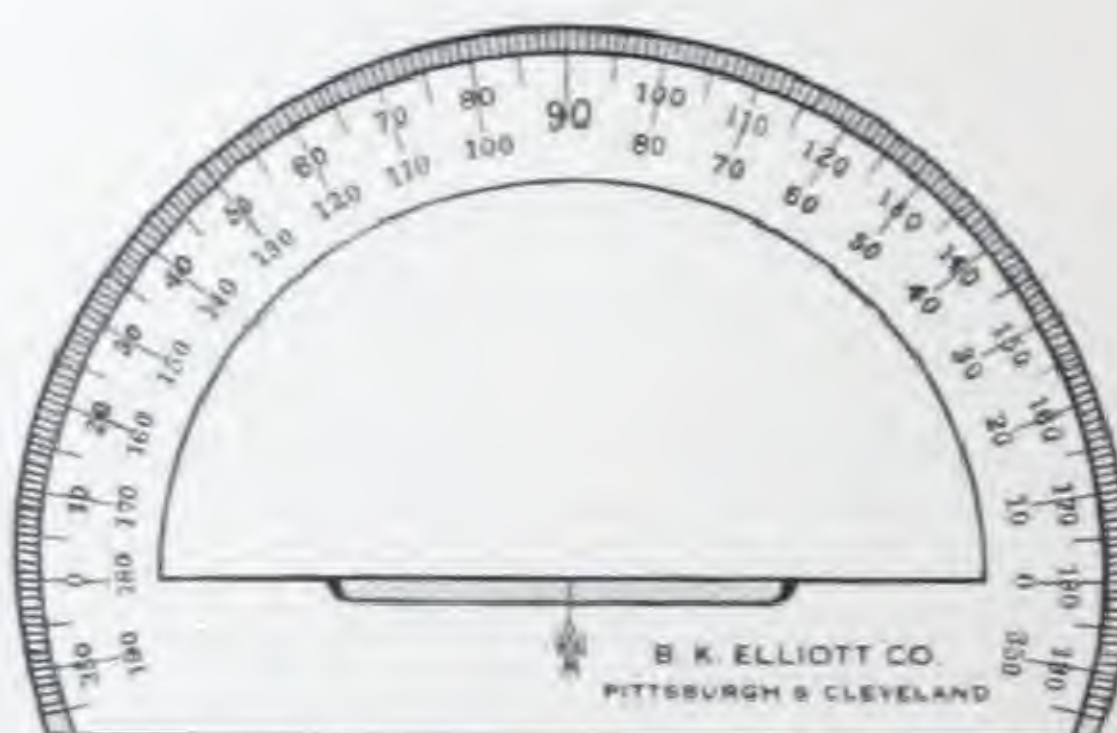


71281

Center on Outer Edge

EACH

- | | | |
|-------|---|--|
| 71281 | Semicircular, German Silver, 4 inches, beveled edge, 1 degree | |
| 71282 | Semicircular, German Silver, 5 inches, beveled edge, $\frac{1}{2}$ degree | |
| 71283 | Semicircular, German Silver, 6 inches, beveled edge, $\frac{1}{4}$ degree | |
| 71284 | Semicircular, German Silver, 8 inches, beveled edge, $\frac{1}{2}$ degree | |



71285

Center on Inner Edge

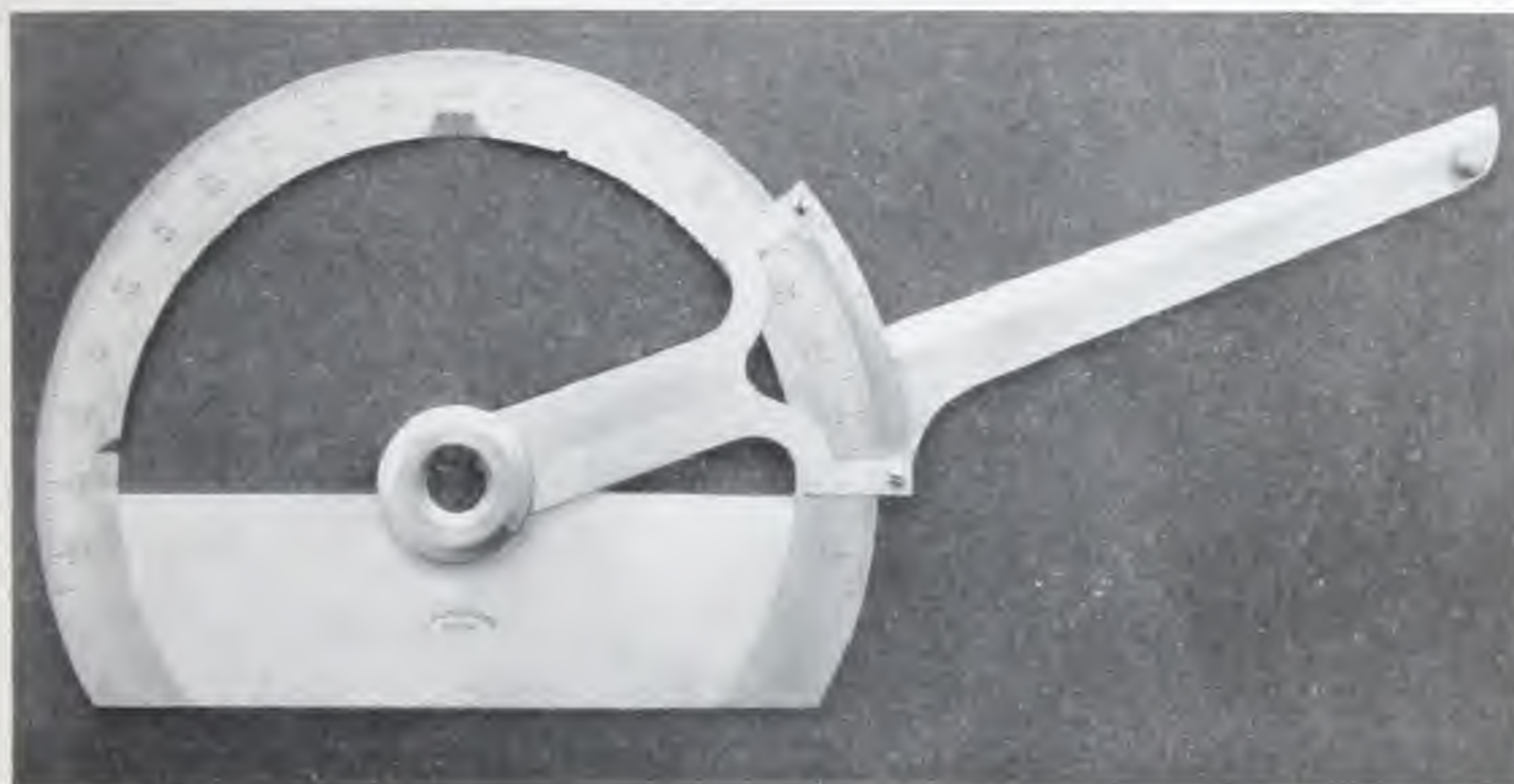
EACH

- | | | |
|-------|---|--|
| 71285 | Semicircular, German Silver, 4 inches, beveled edge, 1 degree | |
| 71286 | Semicircular, German Silver, 5 inches, beveled edge, $\frac{1}{2}$ degree | |
| 71287 | Semicircular, German Silver, 6 inches, beveled edge, $\frac{1}{2}$ degree | |
| 71288 | Semicircular, German Silver, 6 inches, beveled edge, $\frac{1}{4}$ degree | |

See Price List Inside Back Cover

METAL PROTRACTORS

Made of Nickel Silver Chromium Plated



71291

EACH

- 71291** 6-inch nickel silver half circle protractor graduated to $\frac{1}{2}^\circ$ with arm and vernier reading to 3 minutes. Furnished in leatherette covered case . . .
- 71292** 8-inch nickel silver half circle protractor graduated to $\frac{1}{2}^\circ$ with arm and vernier reading to 1 minute. Furnished in leatherette covered case . . .
- 71293** 8-inch nickel silver whole circle protractor graduated to $\frac{1}{2}^\circ$ with arm and vernier reading to 1 minute. Furnished in leatherette covered case . . .
- 71294** 8-inch nickel silver half circle protractor graduated to $\frac{1}{2}^\circ$ with arm and vernier reading to 1 minute with micrometer adjustment. Furnished in leatherette covered case . . .
- 71295** 8-inch nickel silver whole circle protractor graduated to $\frac{1}{2}^\circ$ with arm and vernier reading to 1 minute with micrometer adjustment. Furnished in leatherette covered case . . .

See Price List Inside Back Cover

UNIVERSAL ADJUSTABLE PROTRACTOR TRIANGLE



71331

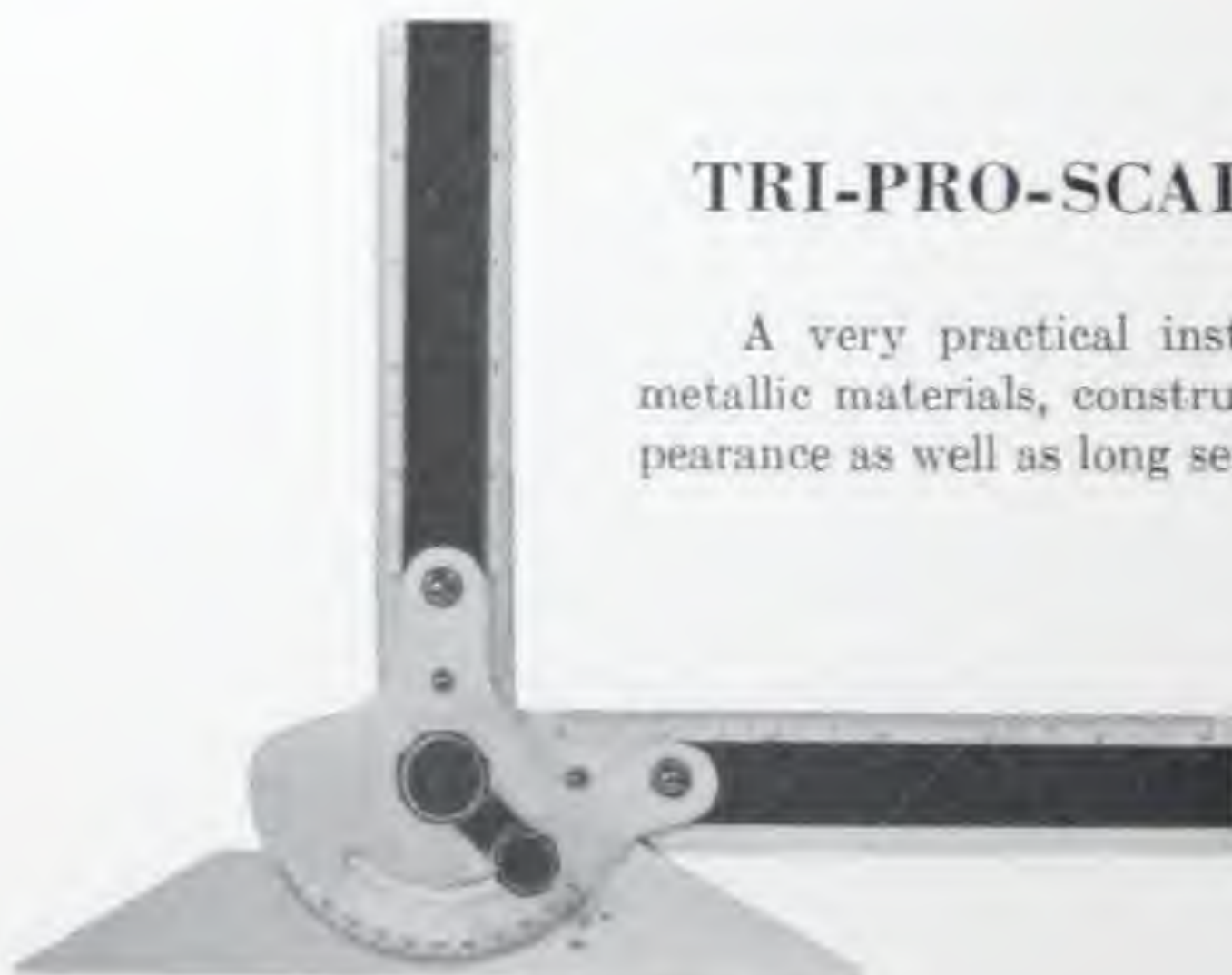
This new adjustable protractor triangle, stout transparent celluloid body (.08" thick) with self-centered ivory grained celluloid protractor. The nickel plated knob locks the protractor in any position, which provides rigidity and greatly facilitates easy handling of the instrument. The protractor is engine divided to half degrees making accurate gauging of "Minute" settings easy.

The instrument combines all angles and protractors into one.

| | | |
|-------|--------------|------|
| | | EACH |
| 71301 | 7" arm..... | |
| 71302 | 10" arm..... | |
| 71303 | 12" arm..... | |

TRI-PRO-SCALE PROTRACTOR

A very practical instrument made of special non-metallic materials, constructed so as to give pleasing appearance as well as long service.

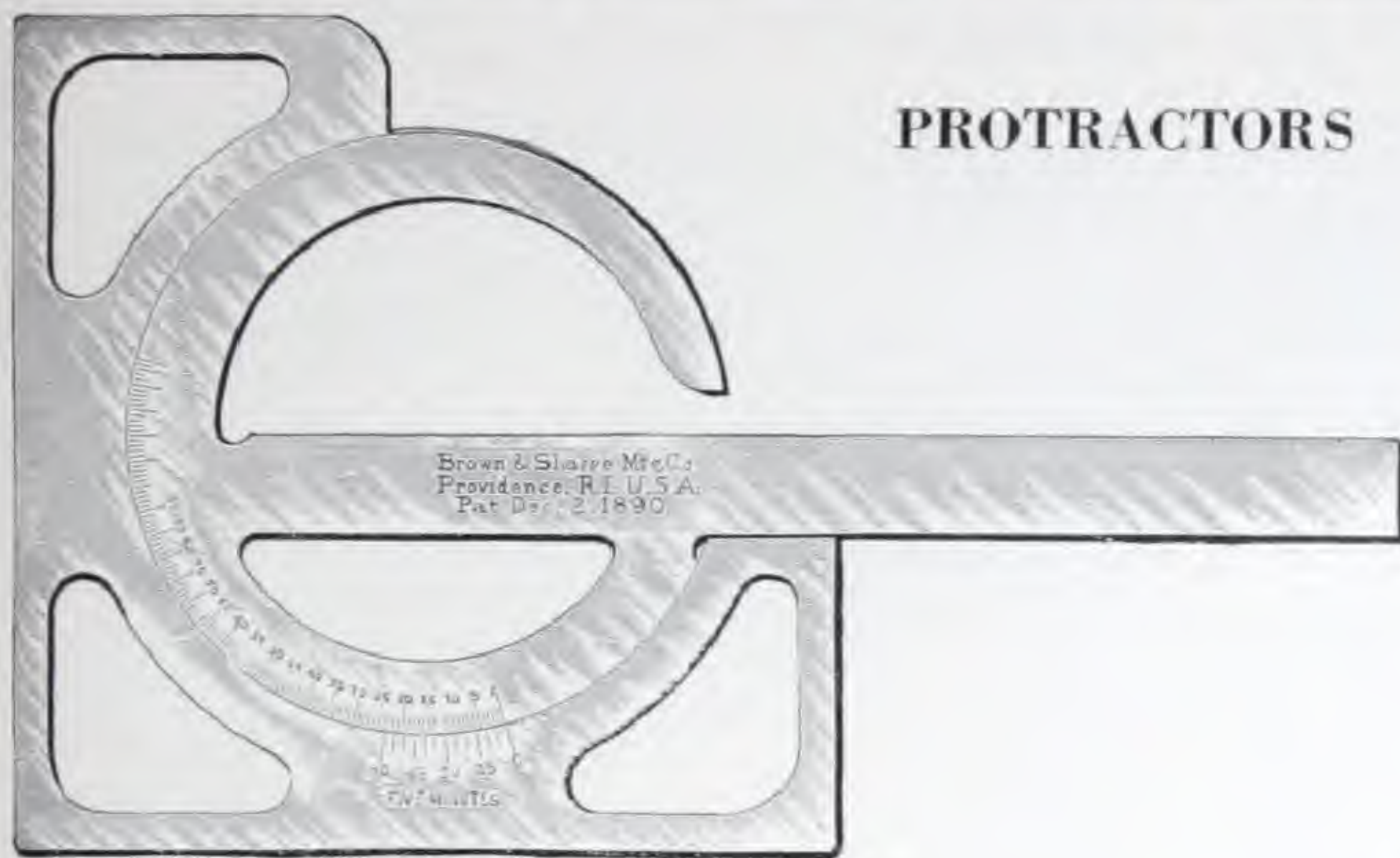


71304

| | | |
|-------|--------------|------|
| | | EACH |
| 71304 | 6" arm..... | |
| 71305 | 9" arm..... | |
| 71306 | 12" arm..... | |

Extra scales can be furnished if desired

See Price List Inside Back Cover



PROTRACTORS

71311

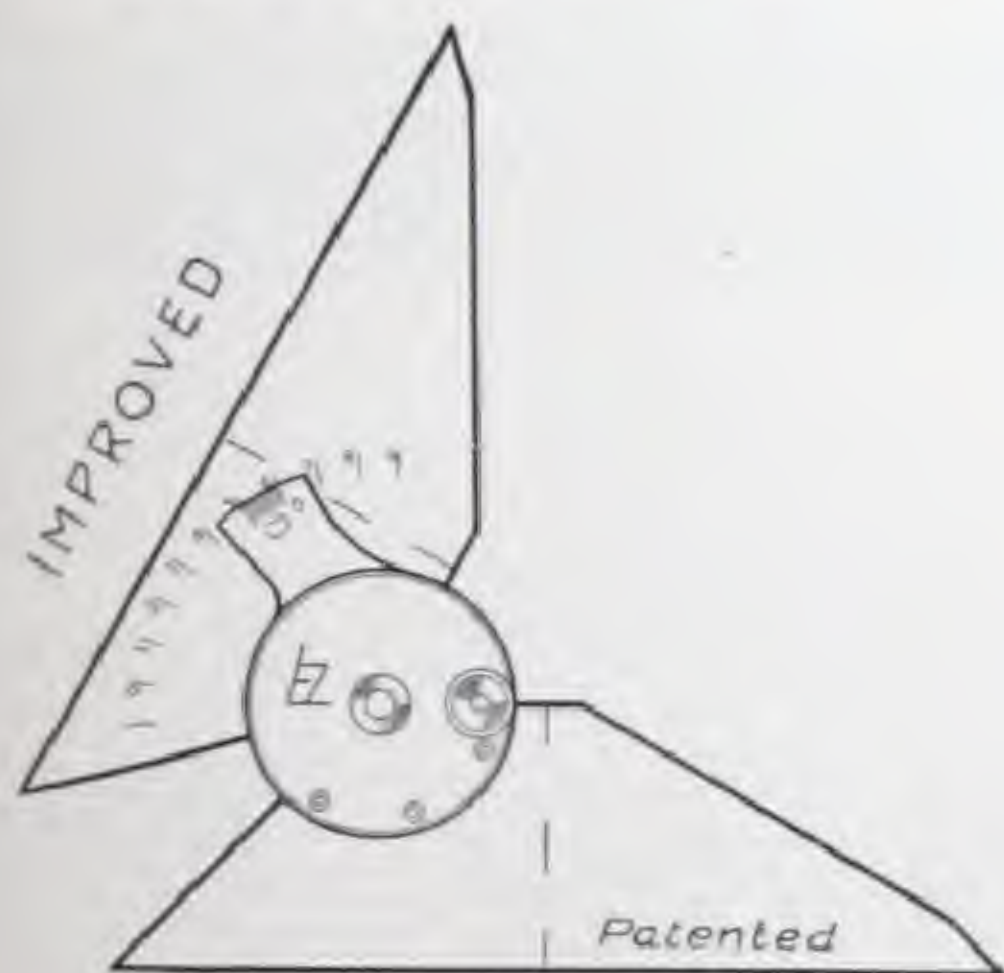
EACH

71311 Draftsman's Steel Protractor, with directions.

71312 Draftsman's Steel Protractor, in morocco case.

This Protractor is made from sheet steel and has a blade $8\frac{1}{2}$ inches long. The graduations read to degrees and the vernier reads to five minutes.

There are no projections on either face of the Protractor and consequently it can be used on either edge of the blade or either side up. This makes it particularly convenient in dividing circles, transferring angles, drawing oblique lines at right angles to each other, or laying off given angles each side of a vertical or horizontal line without changing the setting.



71313



71316 Numbered 0-360

Lesh Angle Protractor, made of heavy transparent celluloid. With vernier and clamp.

EACH

71313 Lesh Angle Protractor 7 inches.

71314 Lesh Angle Protractor 9 inches.

71315 Lesh Angle Protractor 12 inches.

71316 Circular Protractor on bristol board, 8-in. diameter, $\frac{1}{2}^\circ$ numbered.

71317 Circular Protractor on bristol board, 14-in. diameter, $\frac{1}{4}^\circ$ numbered.

71318 Circular Protractor on drawing paper, 8-in. diameter, $\frac{1}{2}^\circ$ numbered.

71319 Circular Protractor on drawing paper, 14-in. diameter, $\frac{1}{4}^\circ$ numbered.

See Price List Inside Back Cover



B. K. ELLIOTT COMPANY



WRICO LETTERING GUIDES



Wrico Lettering Guides Will Produce Perfect Lettering With Less Effort and Greater Speed Than Any Other Lettering Device

To use WRICO Lettering Guides effectively requires neither skill nor previous experience. No preliminary adjustments are necessary before the lettering can be done. The WRICO Lettering Pen is not a machine. It is a PEN that is held in the hand and used in an easy and natural position.

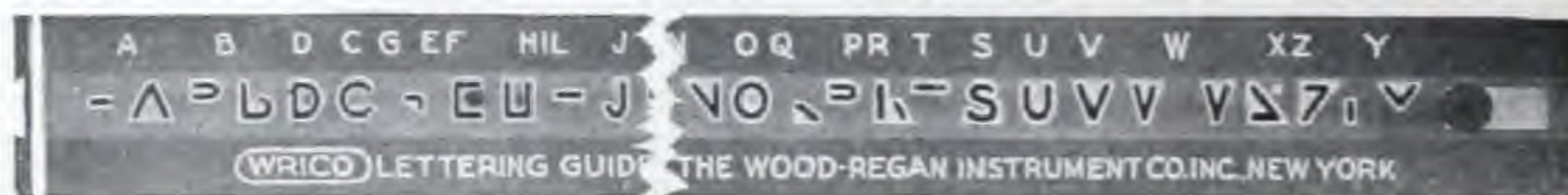


Fig. 1

As shown in Fig. 1, the Guides are grooved on the under side so that the ink will not be smeared when the Guide is moved from one character to another. The Guide is placed directly over that portion of the paper on which the lettering is to be done. This prevents distortion of the characters. Each opening in the Guides is cut with extreme accuracy with the result that every letter, numeral or other symbol made is perfect.

Taking the letter "B" as a typical example, Fig. 2 shows the two openings used. After making the part shown in Fig. 3, the shift button is pressed to the paper and the guide



Fig. 2



Fig. 3



Fig. 4



Fig. 5

shifted to the right as far as the button will permit—which is the position shown in Fig. 4. The letter is then completed as in Fig. 5.

The Guides consist of a strip of well seasoned, transparent celluloid, with openings for all letters and numbers. The Wrico pens, made special for this work, are moved in contact with the sides of the opening to form letters. A shift button is inserted in one end to allow correct formation of the characters.

See Price List Inside Back Cover

STANDARD VERTICAL GOTHIC

A₂ **B**₃ **C**₄ **D**₅ **E**₂ **F**₃ **G**₄ **H**₅ **I**₂ **J**₃ **K**₄ **L**₅ **M**₂ **N**₃ **O**₄ **P**₅ **Q**₃ **R**₄ **S**₅ **T**₆ **U**₇ **V**₈ **W**₉ **X**₀ **Y**₁ **Z**₂

CONDENSED VERTICAL GOTHIC
CVC 500

A₂ **B**₃ **C**₄ **D**₅ **E**₂ **F**₃ **G**₄ **H**₅ **I**₂ **J**₃ **K**₄ **L**₅ **M**₂ **N**₃ **O**₄ **P**₅ **Q**₂ **R**₃ **S**₄ **T**₅ **U**₂ **V**₃ **W**₄ **X**₅ **Y**₂ **Z**₃

STANDARD SLANT

A₂ **B**₃ **C**₄ **D**₅ **E**₆ **F**₇ **G**₈ **H**₉ **I**₁₀ **J**₁₁ **K**₁₂ **L**₁₃ **M**₁₄ **N**₁₅ **O**₁₆ **P**₁₇ **Q**₁₈ **R**₁₉ **S**₂₀ **T**₂₁ **U**₂₂ **V**₂₃ **W**₂₄ **X**₂₅ **Y**₂₆ **Z**₂₇

ADSTYLE

FC 375
 ADSTYLE
 FC 250
 FC 185
 6
 7
 EXTENDED VERTICAL COOTHIC
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &({:,"'i?})

EXTENDED VERTICAL GOTHIC

| EVCN 200 | EVCN 175 | EVCN 140 | EVCN 120 | EVCN 90 |
|----------|----------|----------|----------|---------|
| A | B | C | D | E |
| F | G | H | I | J |
| K | L | M | N | O |
| P | Q | R | S | T |
| U | V | W | X | Y |
| Z | | | | |

SHADOW

VHC 300

A B C D E F G H I J K L

VHC 375

SAMPLES OF LETTERING VERY MUCH CONDENSED. ALL ALPHABET GUIDES CONTAIN THE COMPLETE ALPHABET AND ALL NUMERAL GUIDES A FULL SET OF NUMERALS.



WRICO INDIVIDUAL GUIDES

| STANDARD VERTICAL | CONDENSED VERTICAL | STANDARD SLANT |
|-------------------|--------------------|------------------|
| 713401 (VC 500) | 713416 (CVC 625) | 713428 (SC 500) |
| 713402 (VN 500) | 713417 (CVN 625) | 713429 (SN 500) |
| 713403 (VC 425) | 713418 (CVC 500) | 713430 (SC 425) |
| 713404 (VN 425) | 713419 (CVN 500) | 713431 (SN 425) |
| 713405 (VC 350) | 713420 (CVC 375) | 713432 (SC 350) |
| 713406 (VN 350) | 713421 (CVN 375) | 713433 (SN 350) |
| 713407 (VC 290) | 713422 (CVC 250) | 713434 (SC 290) |
| 713408 (VN 290) | 713423 (CVL 250) | 713435 (SN 290) |
| 713409 (VC 240) | 713424 (CVN 250) | 713436 (SC 240) |
| 713410 (VN 240) | 713425 (CVC 185) | 713437 (SN 240) |
| 713411 (VCN 200) | 713426 (CVL 185) | 713438 (SCN 200) |
| 713412 (VCN 175) | 713427 (CVN 185) | 713439 (SCN 175) |
| 713413 (VCN 140) | | 713440 (SCN 140) |
| 713414 (VCN 120) | | 713441 (SCN 120) |
| 713415 (VCN 90) | | 713442 (SCN 90) |
| | SHADOW | |
| | 713448 (VHC 500) | |
| | 713449 (VHN 500) | |
| | 713450 (VHC 375) | |
| | 713451 (VHN 375) | |
| | 713452 (VHCN 250) | |
| | | ADSTYLE |
| | | 713453 (FC 500) |
| | | 713454 (FN 500) |
| | | 713455 (FC 375) |
| | | 713456 (FN 375) |
| | | 713457 (FC 250) |
| | | 713458 (FN 250) |
| | | 713459 (FC 185) |
| | | 713460 (FN 185) |
| EXTENDED VERTICAL | | |
| 713443 (EVCN 200) | | |
| 713444 (EVCN 175) | | |
| 713445 (EVCN 140) | | |
| 713446 (EVCN 120) | | |
| 713447 (EVCN 90) | | |

EXPLANATION OF NUMBERS OF LETTERING GUIDES

| | | |
|------|---|---------------|
| VCN | 90 stands for Vertical Capitals and Numerals..... | Height, .090" |
| SCN | 175 stands for Slant Capitals and Numerals..... | Height, .175" |
| VC | 350 stands for Vertical Capitals..... | Height, .350" |
| SN | 500 stands for Slant Numerals..... | Height, .500" |
| CVC | 185 stands for Condensed Vertical Capitals..... | Height, .185" |
| CVL | 250 stands for Condensed Vertical Lower Case..... | Height, .250" |
| CVN | 625 stands for Condensed Vertical Numerals..... | Height, .625" |
| EVCN | 120 stands for Extended Vertical Capitals and Numerals..... | Height, .120" |

BAKELITE CABINET



EACH

713461 Bakelite Cabinet for Wrico Guides 16" x 3½" x 2". Will accomodate six standard pens and eighteen guides.....

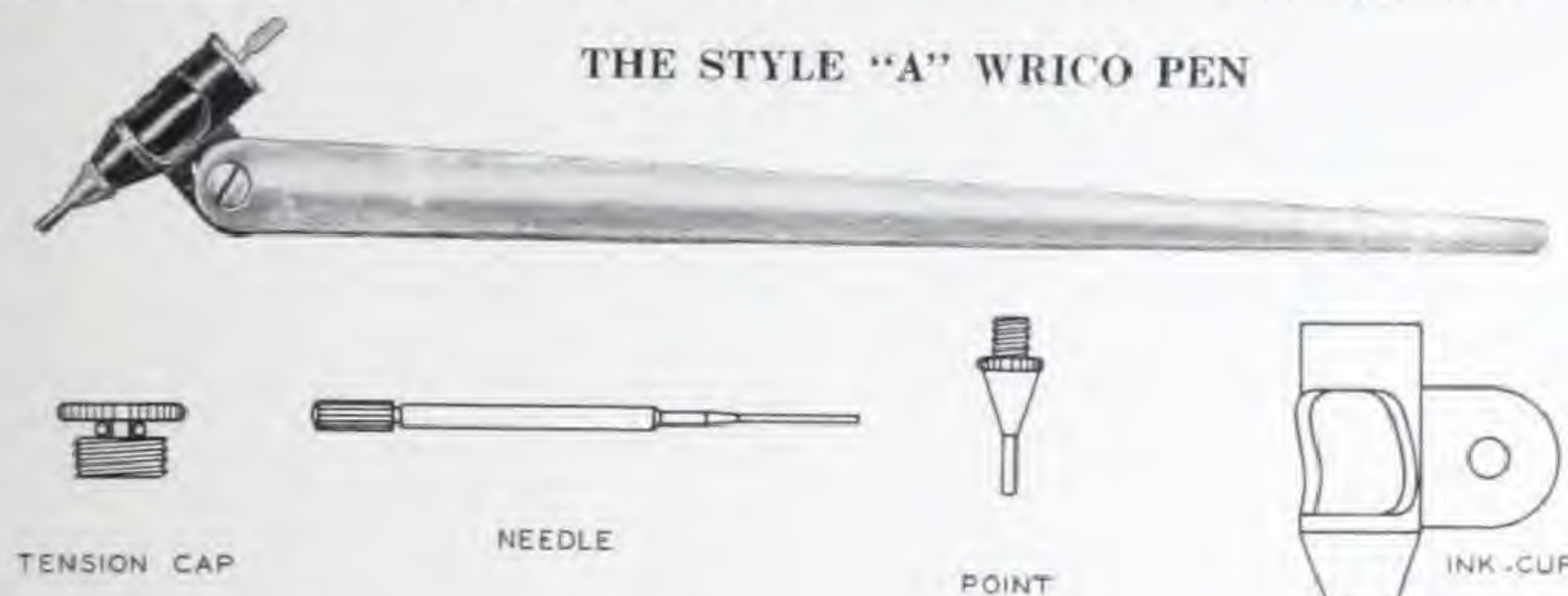
See Price List Inside Back Cover

WRICO LETTERING PENS AND PARTS



- | | |
|--------|----------------------------------|
| 713501 | Pens 2, 3, 4, 5, 6 and 7..... |
| 713502 | Points 2, 3, 4, 5, 6 and 7..... |
| 713503 | Needles 2, 3, 4, 5, 6 and 7..... |
| 713504 | Plungers..... |
| 713505 | Ferrules..... |
| 713506 | Handles..... |

THE STYLE "A" WRICO PEN



For those who prefer a pen which is held in the ordinary writing position the Style "A" Pen is equally useful both for lettering with **Wrico** Lettering Guides and for freehand lettering. By means of the pivot bolt connecting the ink cup to the handle, the angle may be quickly adjusted to suit the user.

- | | | |
|--------|--|------|
| 713507 | Style "A" Pens 2, 3, 4, 5, 6 and 7, in molded Texolite Box with slide cover..... | EACH |
| 713508 | Points 2, 3, 4, 5, 6 and 7..... | |
| 713509 | Needles 2, 3, 4, 5, 6 and 7..... | |
| 713510 | Tension Caps..... | |
| 713511 | Ink Cups..... | |
| 713512 | Handle with Pivot Bolt..... | |

WRICO PEN CLEANER

Dry Ink in Wrico Lettering Pens or on any other drafting instrument may be quickly and easily removed with Wrico Pen Cleaner.

NOTE—Cleaner does not affect enameled, celluloid or rubber handles.

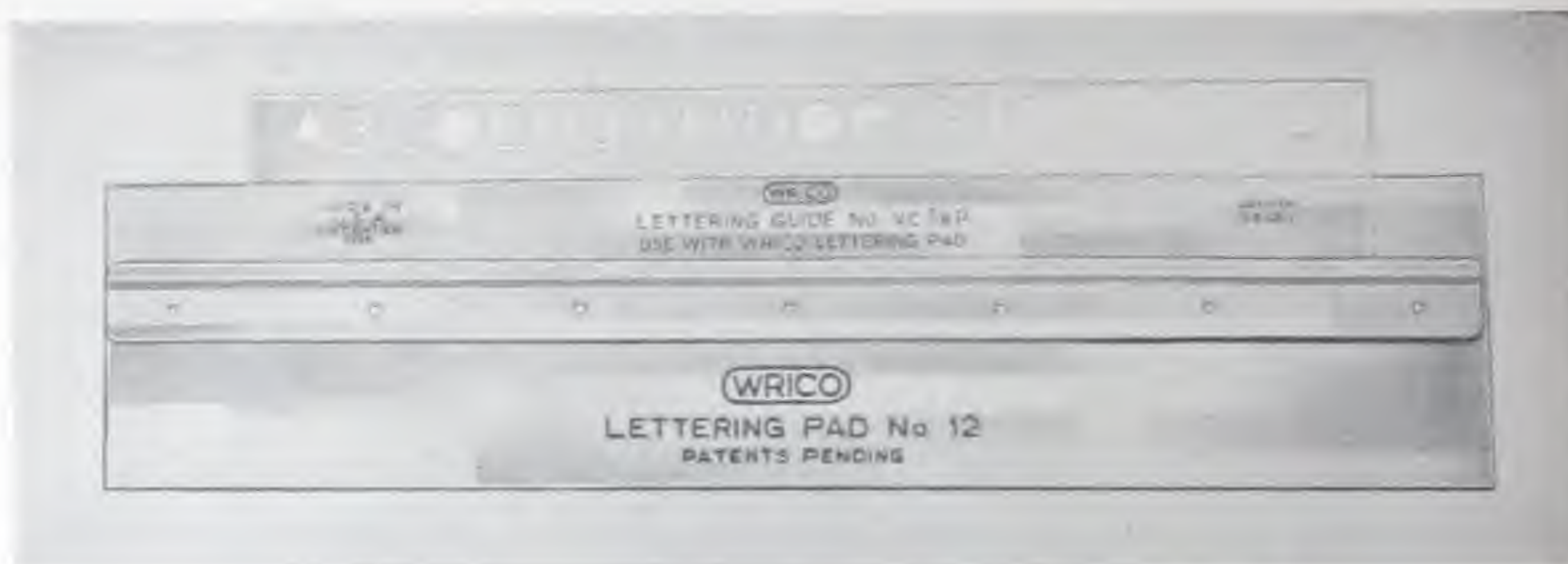
- | | | | |
|--------|------------------------------------|------|-------|
| | | EACH | DOZEN |
| 713513 | Pen Cleaner, one ounce bottle..... | | |
| 713514 | Pen Cleaner, half pint bottle..... | | |

See Price List Inside Back Cover



713513

WRICOPRINT



Wricoprint Guides provide an inexpensive means by which anyone, without skill or previous experience, can do uniform perfect lettering, easily and quickly. Each Guide consists of a flat piece of Pyralin, in which openings are cut for characters (as shown in actual size, with the number of the Guide and the size of **Wrico Pen** used with each Guide.)

| Standard Vertical | Standard Slant | Adstyle |
|--------------------|--------------------|--------------------|
| 713601 (VC 1/2 P) | 713616 (SC 1/2 P) | 713631 (AC 1/4 P) |
| 713602 (VL 1/2 P) | 713617 (SL 1/2 P) | 713632 (AL 1/4 P) |
| 713603 (VN 1/2 P) | 713618 (SN 1/2 P) | 713633 (AN 1/4 P) |
| 713604 (VC 3/8 P) | 713619 (SC 3/8 P) | 713634 (AC 3/16 P) |
| 713605 (VL 3/8 P) | 713620 (SL 3/8 P) | 713635 (AL 3/16 P) |
| 713606 (VN 3/8 P) | 713621 (SN 3/8 P) | 713636 (AN 3/16 P) |
| 713607 (VC 1/4 P) | 713622 (SC 1/4 P) | 713637 (IC 1/4 P) |
| 713608 (VL 1/4 P) | 713623 (SL 1/4 P) | 713638 (IL 1/4 P) |
| 713609 (VN 1/4 P) | 713624 (SN 1/4 P) | 713639 (IN 1/4 P) |
| 713610 (VC 3/16 P) | 713625 (SC 3/16 P) | 713640 (IC 3/16 P) |
| 713611 (VL 3/16 P) | 713626 (SL 3/16 P) | 713641 (IL 3/16 P) |
| 713612 (VN 3/16 P) | 713627 (SN 3/16 P) | 713642 (IN 3/16 P) |
| 713613 (VC 1/8 P) | 713628 (SC 1/8 P) | |
| 713614 (VL 1/8 P) | 713629 (SL 1/8 P) | |
| 713615 (VN 1/8 P) | 713630 (SN 1/8 P) | |

See Price List Inside Back Cover

WRICO BRUSH PENS

Wrico Brush Pens are made in five sizes, designed to fill the need for wide line pens which will not "splash" and will make uniform lines of full density without an excess of ink or water color.

In addition to their obvious advantages for ruling border and other heavy lines, Brush Pens, sizes A, B, and C are used with the large vertical guides.

| | | | | | | | | | |
|---|----------|--|----------|--|----------|--|----------|--|----------|
|  | A |  | B |  | C |  | D |  | E |
| $\frac{1}{16}$ | | $\frac{3}{32}$ | | $\frac{1}{8}$ | | $\frac{3}{16}$ | | $\frac{1}{4}$ | |
| LARGE VERTICAL GUIDES | | | | | | | | | |
| VN 1000 | | | | | | | | | |
| VC 1000 | | | | | | | | | |
| A 2 | | | | | | | | | |
| Used with Brush Pen C | | | | | | | | | |
| VN 750 | | | | | | | | | |
| VC 750 | | | | | | | | | |
| B 3 | | | | | | | | | |
| Used with Brush Pen B | | | | | | | | | |
| VN 625 | | | | | | | | | |
| VC 625 | | | | | | | | | |
| C 4 | | | | | | | | | |
| Used with Brush Pen A | | | | | | | | | |

- 71371 Wrico Brush Pens, A, B, C, D and E.
- 71372 Large Vertical Guides VC-1000.
- 71373 Large Vertical Guides VN-1000.
- 71374 Large Vertical Guides VC-750.
- 71375 Large Vertical Guides VN-750.
- 71376 Large Vertical Guides VC-625.
- 71377 Large Vertical Guides VN-625.

See Price List Inside Back Cover



CELLULOID

713801 Transparent. Colorless. Sheets size 20" x 50".

THICKNESS

PER SHEET

| | |
|-------------------------|--|
| 3-1000 of an inch..... | |
| 5-1000 of an inch..... | |
| 7½-1000 of an inch..... | |
| 10-1000 of an inch..... | |
| 15-1000 of an inch..... | |
| 20-1000 of an inch..... | |
| 30-1000 of an inch..... | |
| 50-1000 of an inch..... | |
| 60-1000 of an inch..... | |
| 90-1000 of an inch..... | |

713802 A. B. Finish. (Frosted, semi-transparent.) Sheets size 20" x 50".

Surface will take water color, ink, and pencil.

THICKNESS

PER SHEET

| | |
|-------------------------|--|
| 5-1000 of an inch..... | |
| 10-1000 of an inch..... | |
| 15-1000 of an inch..... | |
| 20-1000 of an inch..... | |

LUMARITH (Cellulose Acetate)

Sheets Size 40" x 50"

Can be had in clear or frosted finish

THICKNESS

PER SHEET

| | | |
|---------------|-------------------------|--|
| 713803 | 10-1000 of an inch..... | |
|---------------|-------------------------|--|

DRAWING TRACING FILM TRACEFILM

A semi-transparent cellulose acetate sheet for artists and photographers. For diffusing lights, cutting down negative backgrounds, highlighting color flaps, etc. Will not buckle when water or ink is applied.

EACH

| | | |
|---------------|---------------------------------------|---------------|
| 713804 | Tracefilm, rolls 21 x 144 inches..... | \$2.00 |
|---------------|---------------------------------------|---------------|

PROTECTOID

A thin, crystal-clear, transparent wrapping medium especially prepared for packaging wherever attractiveness, protection from dust, grease, fingermarks, water, etc., is desired. It always retains its pliability and will not dry out with age to cause brittle, fragile wrappings or a distorted, wrinkled package, that has lost its brilliancy or crystal-clear color.

| | | PER ROLL | PER ROLL | PER ROLL |
|---------------|------------------------------------|---------------------|-----------------|-----------------|
| | | LIGHT WEIGHT | MEDIUM | HEAVY |
| 713805 | 50-foot rolls, 20-inch width..... | \$1.25 | \$2.50 | |
| 713806 | 100-foot rolls, 20-inch width..... | 2.50 | | |
| 713807 | 20-foot rolls, 40-inch width..... | | | \$5.85 |

PROTECTOID (FROSTED)

A shrinkproof, moistureproof overlay sheet. Used for reproduction in line, half-tone, offset and color work. Made in three weights for varied uses.

PER ROLL

| | | |
|---------------|---|--|
| 713808 | Light Weight, 50-foot rolls, 20 inches wide..... | |
| 713809 | Light Weight, 100-foot rolls, 20 inches wide..... | |
| 713810 | Medium Weight, 25-foot rolls, 20 inches wide..... | |
| 713811 | Medium Weight, 50-foot rolls, 20 inches wide..... | |

See Price List Inside Back Cover

TRANSPARENT CELLULOID TRIANGLES



71391-71393



71392



71395

71391 Transparent Celluloid Triangles, open center, 45 x 45°, .060 inch thick, with finger lifts.

| | | | | | | | | | | | |
|--------|---|---|---|---|---|---|----|----|----|----|----|
| INCHES | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 | 18 |
| EACH.. | | | | | | | | | | | |

71392 Transparent Celluloid Triangles, open center, 30 x 60°, .060 inch thick, with finger lifts.

| | | | | | | | | | | | |
|--------|---|---|---|---|---|---|----|----|----|----|----|
| INCHES | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 | 18 |
| EACH.. | | | | | | | | | | | |

71393 Transparent Celluloid Triangles, 45 x 45°, .090 inch thick, with finger lifts.

| | | | | | | | | | |
|-------------|----|----|----|----|----|----|----|----|----|
| INCHES..... | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| EACH..... | | | | | | | | | |

71394 Transparent Celluloid Triangles, 30 x 60°, .090 inch thick, with finger lifts.

| | | | | | | | | | |
|-------------|----|----|----|----|----|----|----|----|----|
| INCHES..... | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| EACH..... | | | | | | | | | |

71395 Transparent Celluloid Triangles, 22 1/2 x 67 1/2°, .060 inch thick, with finger lifts.

| | | | | | | | |
|-------------|---|---|---|----|----|----|----|
| INCHES..... | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| EACH | | | | | | | |



71396



71397

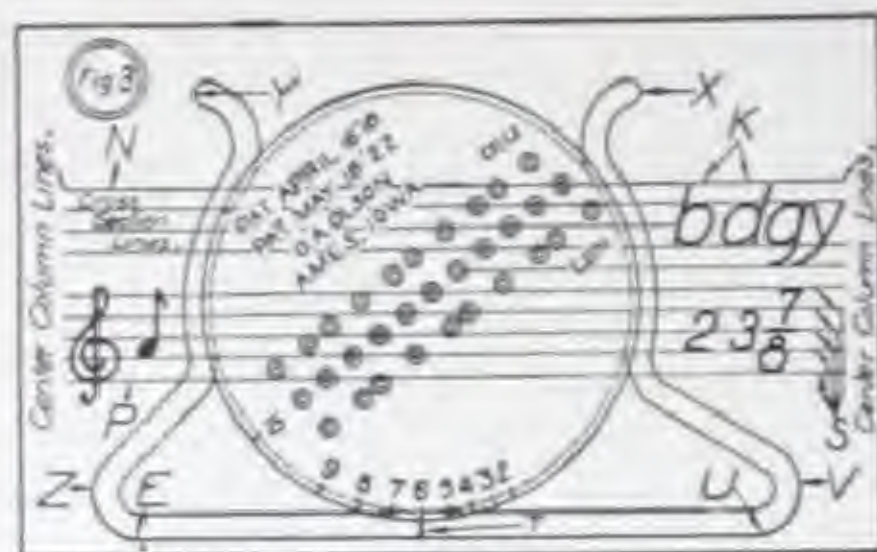
71396 Transparent Celluloid Triangles, open center, 45 x 45°, .050 inch thick.

| | | | | | | | | | | | |
|--------|---|---|---|---|---|---|----|----|----|----|----|
| INCHES | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 | 18 |
| EACH.. | | | | | | | | | | | |

71397 Transparent Celluloid Triangles, open center, 30 x 60°, .050 inch thick.

| | | | | | | | | | | | |
|--------|---|---|---|---|---|---|----|----|----|----|----|
| INCHES | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 14 | 16 | 18 |
| EACH.. | | | | | | | | | | | |

See Price List Inside Back Cover



71401

"AMES" LETTERING INSTRUMENT

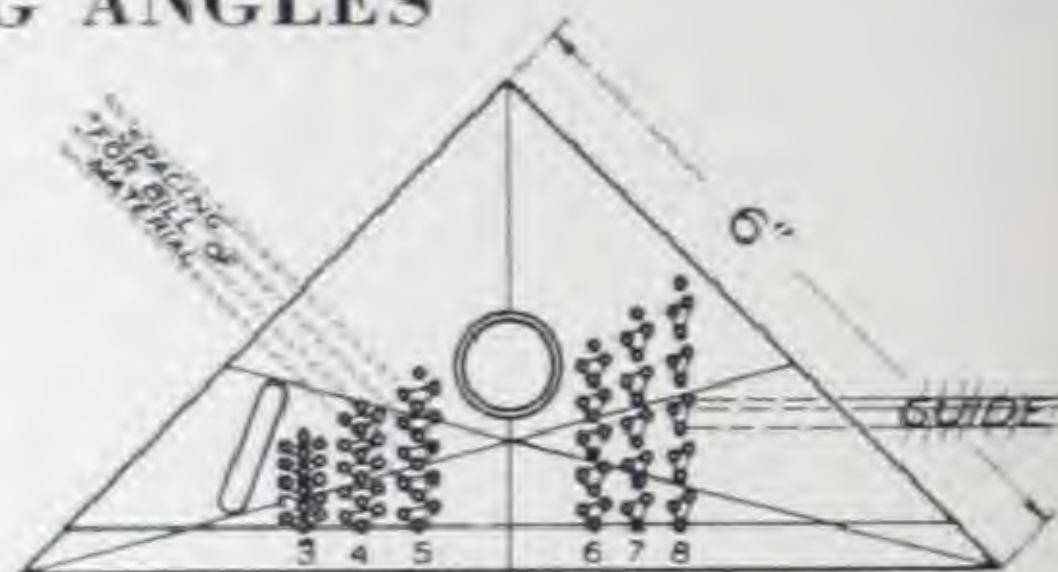
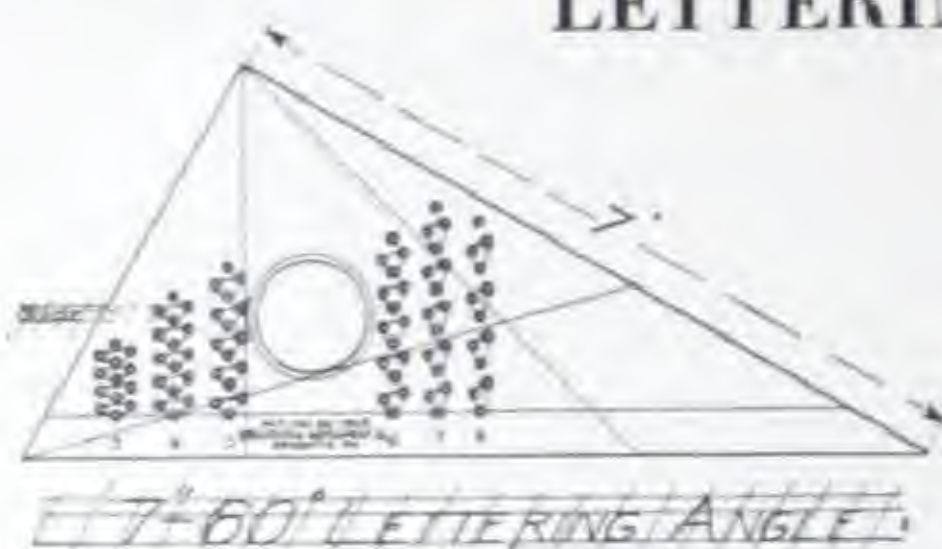
TRANSPARENT CELLULOID DISC IN METAL FRAME

The Ames Lettering Instrument is winning the approval of many users. Every draftsman, instructor and student will appreciate the operations possible with this instrument.

This instrument permits the user to vary the heights of lettering by adjusting the dial or disc. Slope lines can be drawn without adjustment. Instructions furnished with each instrument.

71401 Ames Lettering Instrument EACH

LETTERING ANGLES



30 x 60

5-INCH 6-INCH 7-INCH 8-INCH 9-INCH

71402 Style A EACH

71403 Style B EACH

45 x 45

4-INCH 5-INCH 6-INCH 7-INCH 8-INCH

71404 Style A EACH

71405 Style B EACH

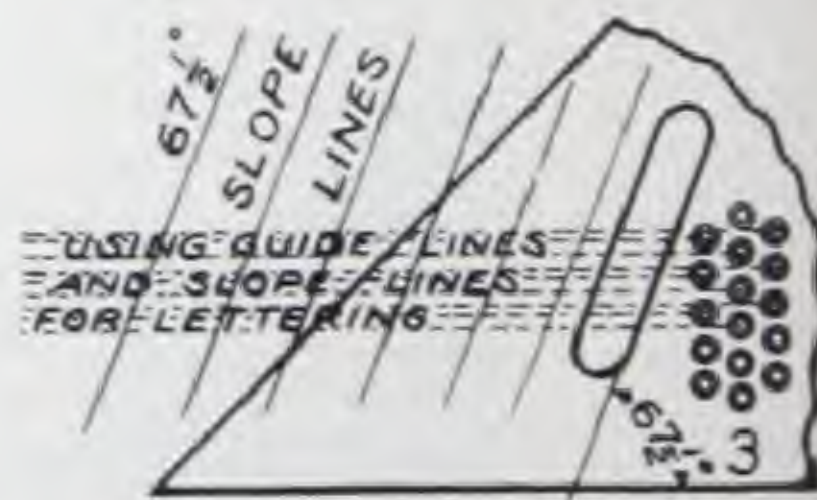
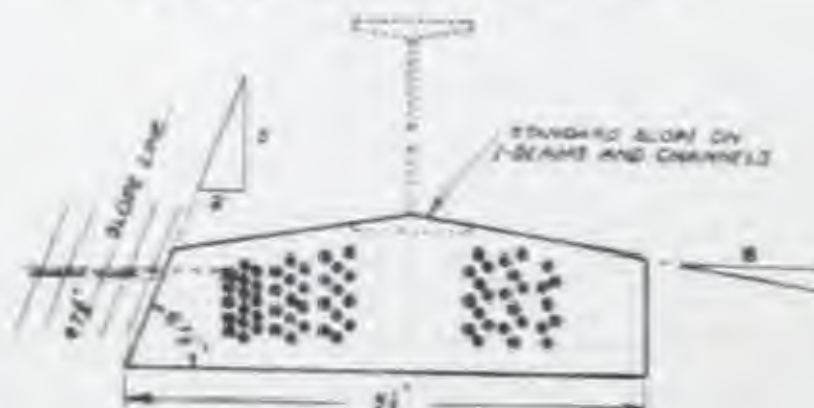
All Style "A" Lettering Angles have the black hair-lines, as shown above, which enable one to obtain angles of 15°, 30°, 45°, 60°, 75°, and 90°, from either a 45° x 45° or a 30° x 60° Lettering Angle, by setting these hair-lines on horizontal or perpendicular lines on the drawing board.

The Style "B" Lettering Angles do not have the black hair-lines that are on the Style "A" shown above. In all other respects, the Style "A" and "B" Lettering Angles are identical.

67½° SLOT

The 67½° slot is used for making slope guide lines for lettering. The slot is made in all instruments except the Lettering Device and the 4"-45° x 45° and 5"-30° x 60° Lettering Angles.

LETTERING DEVICE



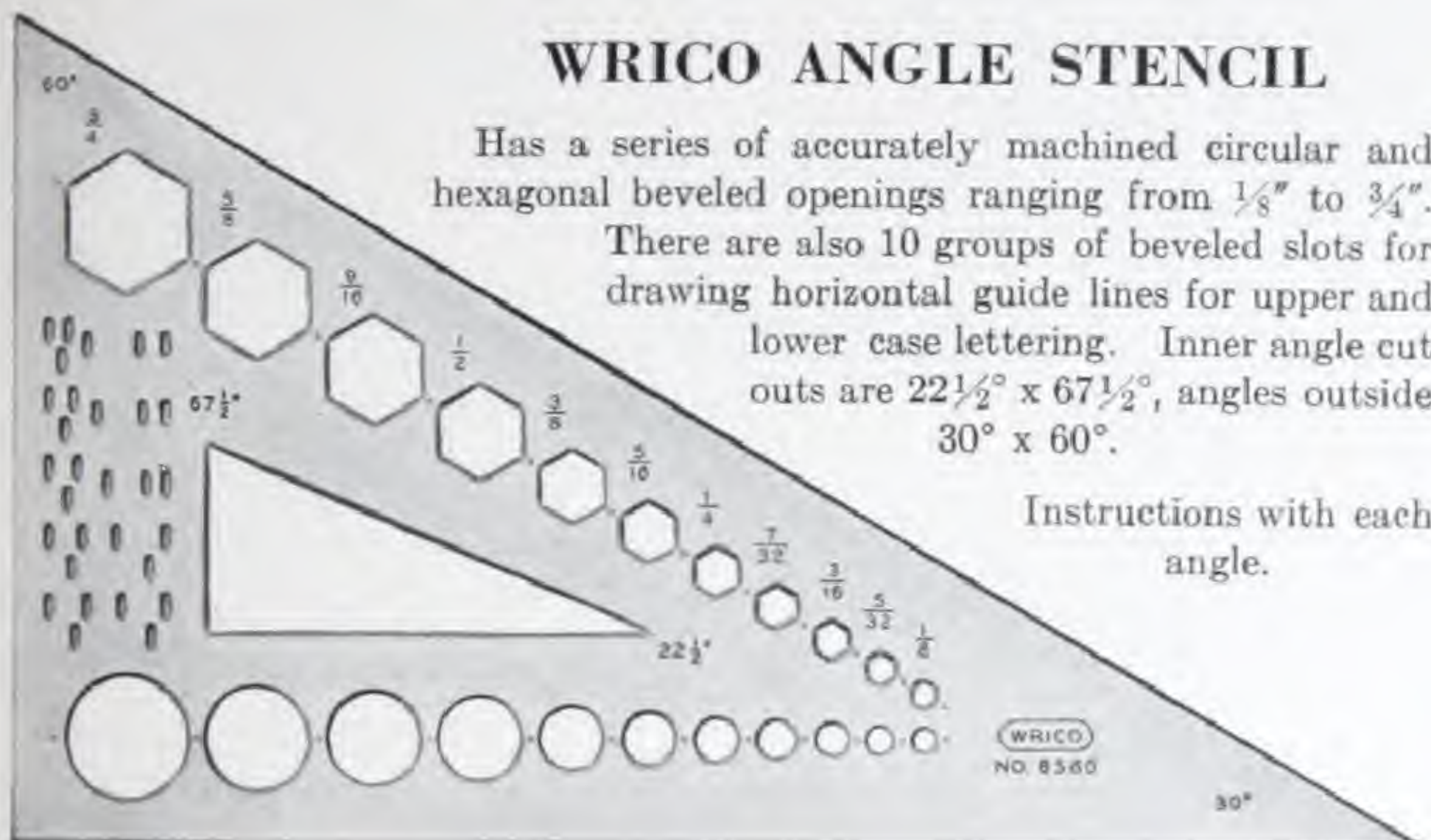
The Lettering Device (not a triangle) is made in one style only. See illustration. The 67½° end is used the same as the 67½° slot illustrated on this page.

71406 Lettering Device EACH
Instructions furnished with each instrument.

See Price List Inside Back Cover

ANGLES FOR ROOF PITCHES AND EMBANKMENTS

- 71411 Celluloid Angles for roof pitches 6 TO SET
 71412 Celluloid Angles for embankments, 6 slopes 3 TO SET



WRICO ANGLE STENCIL

Has a series of accurately machined circular and hexagonal beveled openings ranging from $\frac{1}{8}$ " to $\frac{3}{4}$ ". There are also 10 groups of beveled slots for drawing horizontal guide lines for upper and lower case lettering. Inner angle cut outs are $22\frac{1}{2}^\circ \times 67\frac{1}{2}^\circ$, angles outside $30^\circ \times 60^\circ$.

Instructions with each angle.

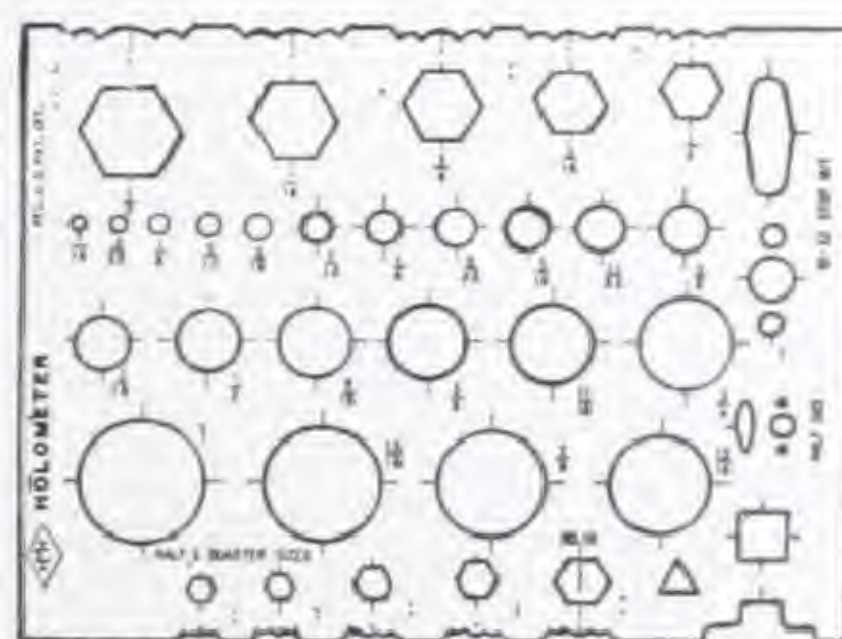
- 71413 Wrico Angle Stencil EACH

HOLOMETER

A handy tool for laying out hex's, bolt heads, nuts and circles from $\frac{1}{16}$ " to 1". Made accurately of clear plastic, size 5" x $6\frac{1}{2}$ ".

EACH

- 71414 Holometer



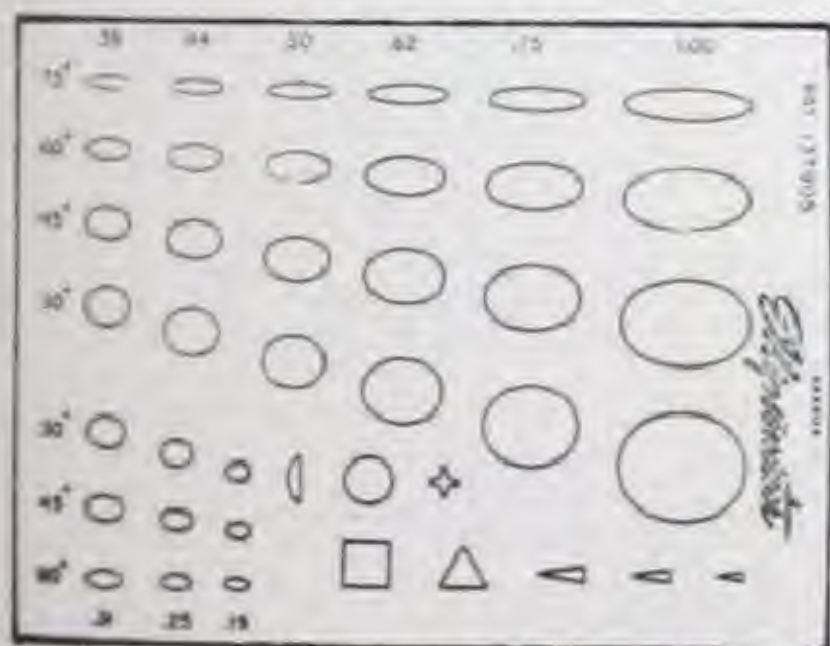
71414

ELLIPSOMETER

Used by Designers, Engineers, Draftsmen and students. Makes for speed, efficiency, accuracy and uniformity. Ellipses in 30-45-60 and 75 degrees from .19 to 1" major axis of ellipse. Made of clear plastic.

EACH

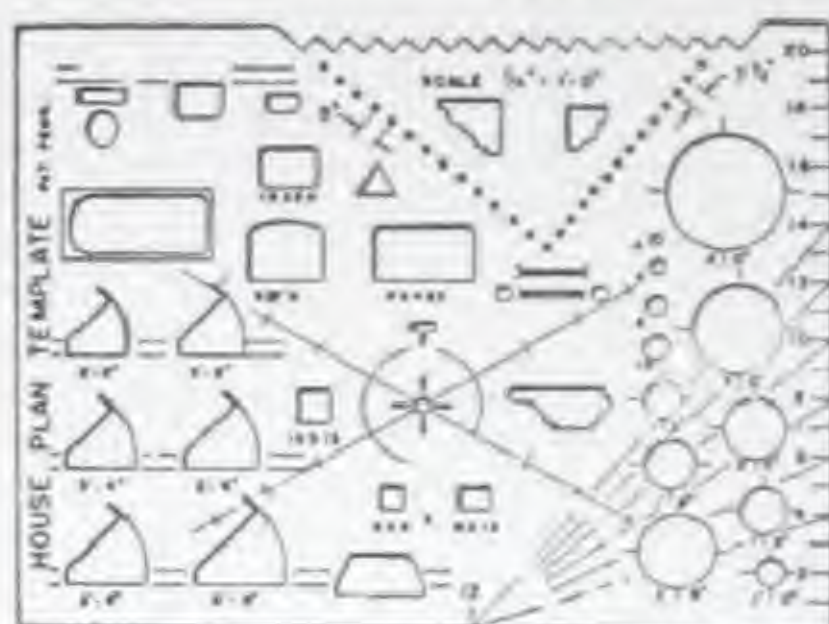
- 71415 5" x 6" Ellipsometer



71415

See Price List Inside Back Cover

HOUSE PLAN TEMPLATES



71421

Made of clear plastic, size $5\frac{1}{4} \times 6\frac{3}{4}$ inches, this template is a time saver for Architects and Contractors in laying out and placing various fixtures on plans. Stairs, Door Swings, roof-pitches, etc. are readily located.

EACH

71421 House Plan Template

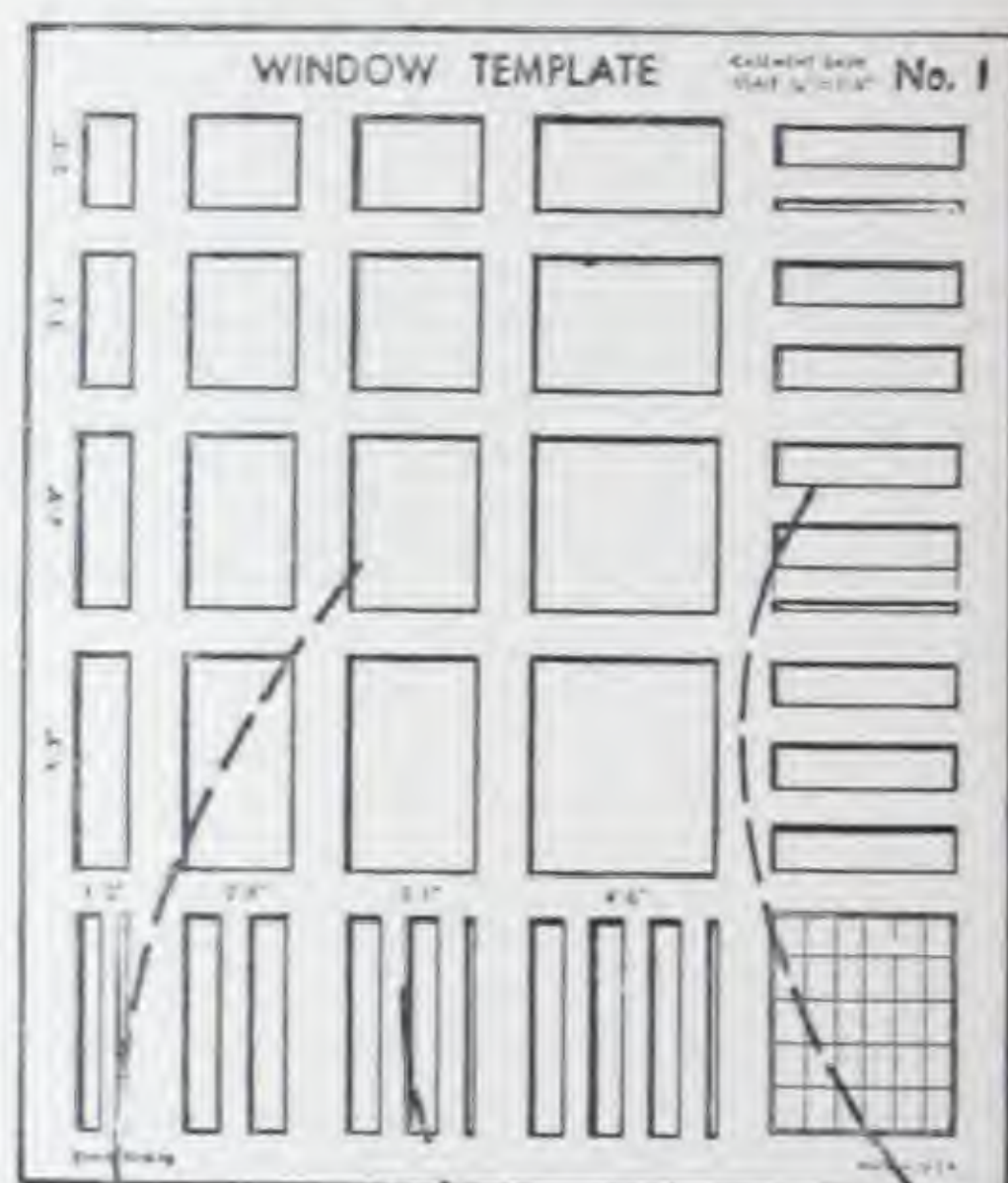
WINDOW TEMPLATES

For rapid accurate drawing of metal or wood casement sash on $\frac{1}{4}" - 1'$ scale. Sixteen standard size windows may be drawn direct from template. Glass sizes either $8 \times 12"$ or $16 \times 12"$.

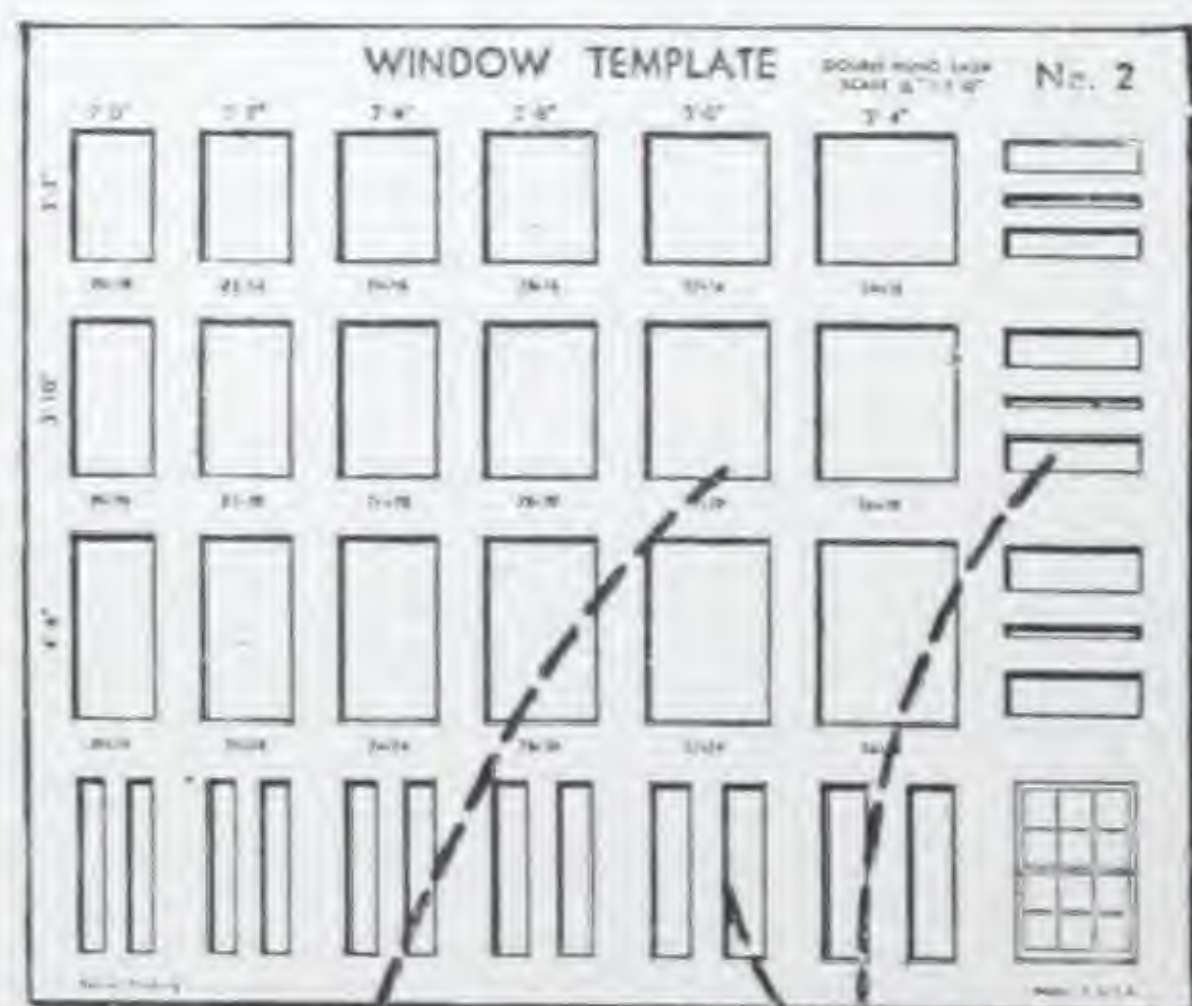
Made of clear plastic, size $6" \times 7"$.

EACH

71422 Casement sash template



71422



71423

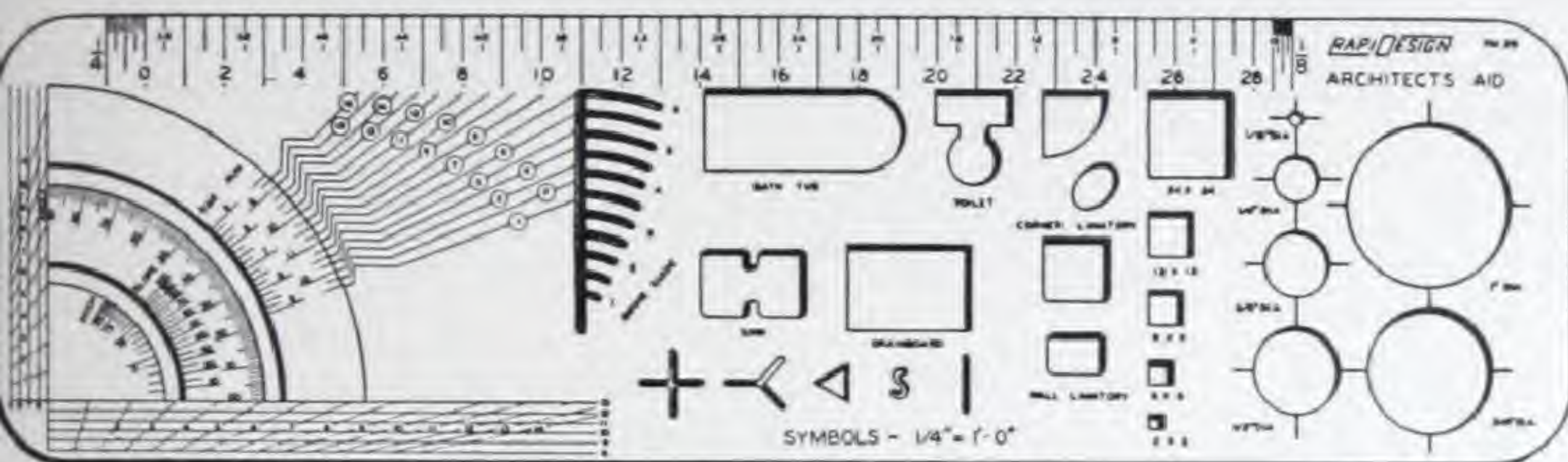
For drawing double-hung sash windows scale $\frac{1}{4}" - 1'$. Eighteen popular size windows may be drawn direct from template—an aid in drawing other sizes.

Made of clear plastic size, $6" \times 7"$.

EACH

71423 Double-hung sash template

ARCHITECTS AID



71431

For standard drawings on $\frac{1}{4}$ " - 1" scale, actual size 3 x 10 inches, made from heavy gauge transparent plastic, with clean-cut contours of architectural symbols.

EACH

71431 Architects Aid

ELECTRO SYMBOL



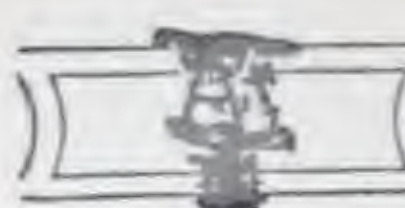
71432

Same size and construction as No. 71431 Architects Aid, but contours for Electronics, Radio, Television, Electrical Engineering and Designing.

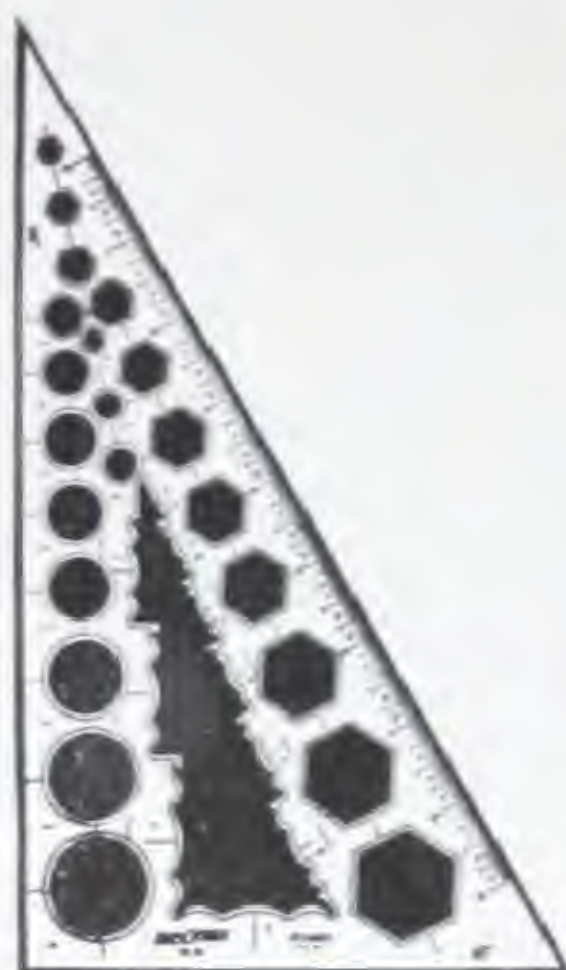
EACH

71432 Electro Symbol

See Price List Inside Back Cover



ANGLES — STENCILS



71441

71441 Rapidesign Detailer—A 10-inch 60° triangle .080" transparent plastic, with beveled contours for hexagon cap screws and circles from 3/16" to 1" diameter. EACH.....

71442 Wrico Triangle—6-inch 60° triangle of green Pyralin with eleven hexagonal beveled openings. EACH.....

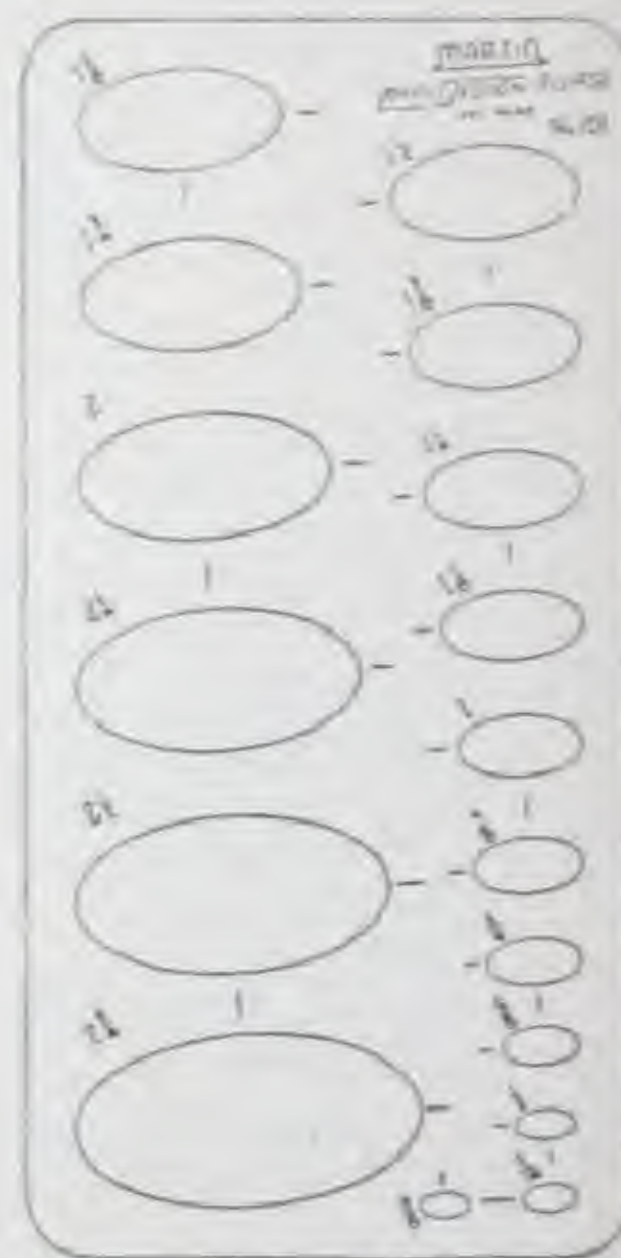


71442

ELLIPSES

For smaller ellipse sizes from 3/8" to 2 3/4" major axis, this set of four ellipses is a time-saver.

Simple, handy, clean-cut and accurate. Made of .040" transparent Pyralin. Actual size 4 3/4" x 9 3/4". Set furnished in handy reinforced folio to keep the four instruments at your service, or individually in envelope.



71444

EACH

- | | | |
|-------|-------------|-------|
| 71443 | Ellipse 20° | ..... |
| 71444 | Ellipse 30° | ..... |
| 71445 | Ellipse 45° | ..... |
| 71446 | Ellipse 60° | ..... |

PER SET

- | | | |
|-------|----------------------|-------|
| 71447 | Set of Four Ellipses | |
|-------|----------------------|-------|

See Price List Inside Back Cover

PARALLEL RULES



EACH

- 1451 Solid Brass, Fine Finish, Rolling Parallel Rule, 12 inches
 1452 Solid Brass, Fine Finish, Rolling Parallel Rule, 18 inches
 1453 Solid Brass, Fine Finish, Rolling Parallel Rule, 24 inches



71454



Plastic Parallel Rule. Made of laminated plastic. Waterproof and easily cleaned. No take-up or adjusting necessary. Bronze bearings fit snugly into counterbored Links and Blades. (See cross-section)

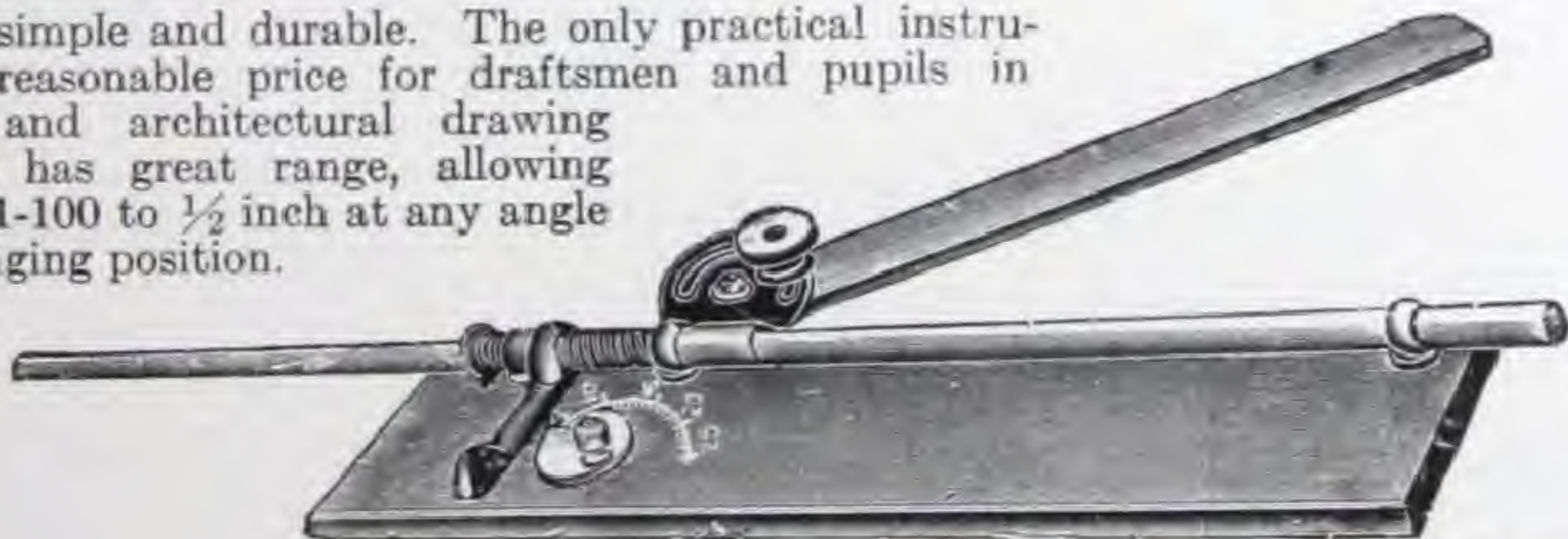
Blades are $5/32$ " thick; edges beveled; accurate and parallel. Links permit a three-inch spread.

EACH

- 1454 Plastic Parallel Ruler, 12-inch
 1455 Plastic Parallel Ruler, 15-inch
 1456 Plastic Parallel Ruler, 18-inch
 1457 Plastic Parallel Ruler, 24-inch

SECTION LINERS

Strong, simple and durable. The only practical instrument at a reasonable price for draftsmen and pupils in mechanical and architectural drawing classes. It has great range, allowing spaces from 1-100 to $1/2$ inch at any angle without changing position.



71458

EACH

- 1458 Standard Section Liner, natural wood finish, nickel-plated mountings, in cardboard box.

See Price List Inside Back Cover



EACH

71461 Adjustable Curve Ruler, 14½ inches long



EACH

71462 Adjustable Curve Ruler, 30 inches long



EACH

71463 Adjustable Curve Ruler, 7 inches long

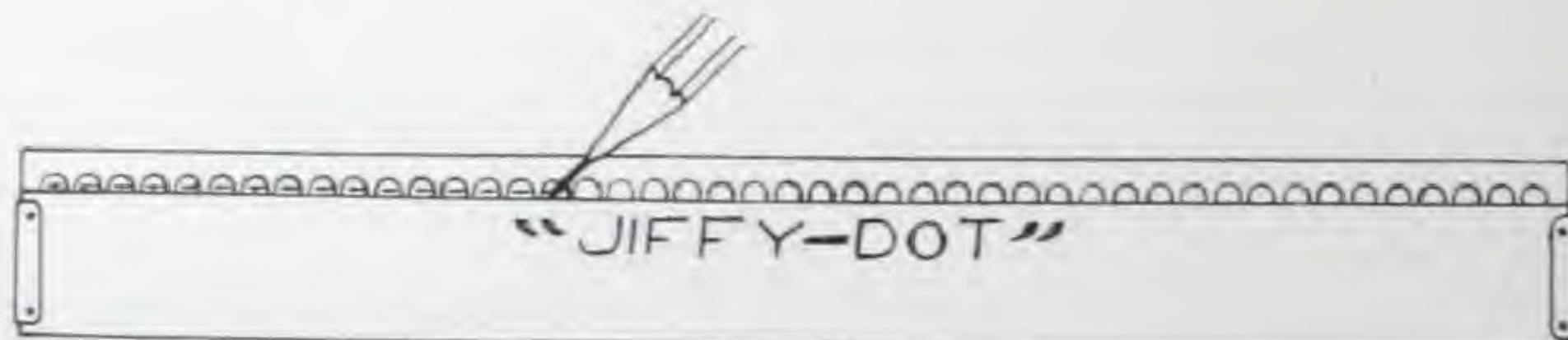
71464 Adjustable Curve Ruler, 15 inches long

71465 Adjustable Curve Ruler, 31 inches long

The above rules are flexible, and any curve can be described and retained as the user may desire.

"JIFFY-DOT"

"Jiffy-Dot" is a perforated celluloid ruler mounted on a metal base. Dotted lines are made by drawing the pencil over perforations.



EACH

71466 "Jiffy-Dot", 12 inches long

See Price List Inside Back Cover

IRREGULAR CURVES



1471 Transparent Celluloid Curves, .050 thick

Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13

EACH.....

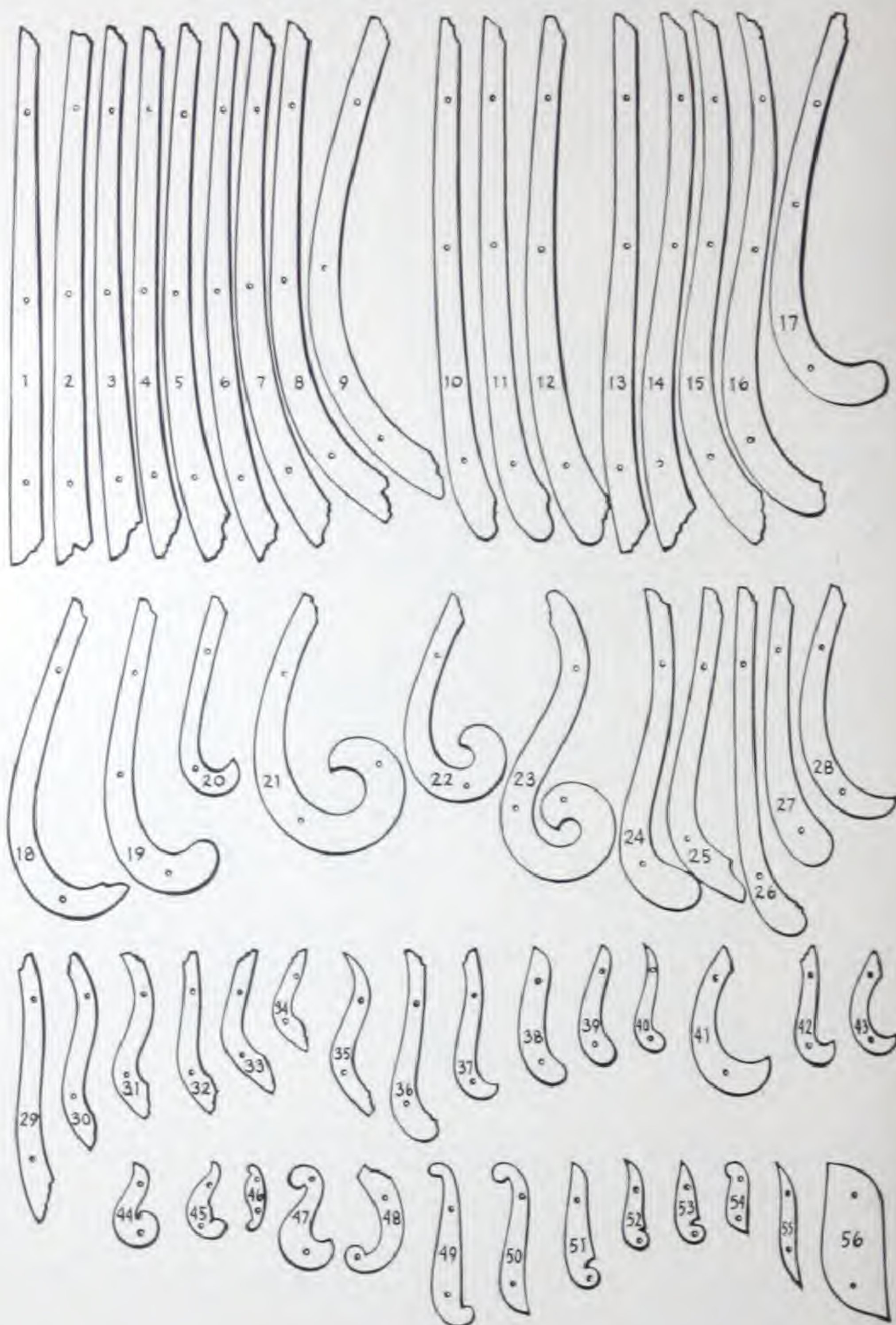
Nos. 14 15 16 17 18 19 20 21 22 23 24 25 26

EACH.....

See Price List Inside Back Cover



COPENHAGEN SHIP CURVES

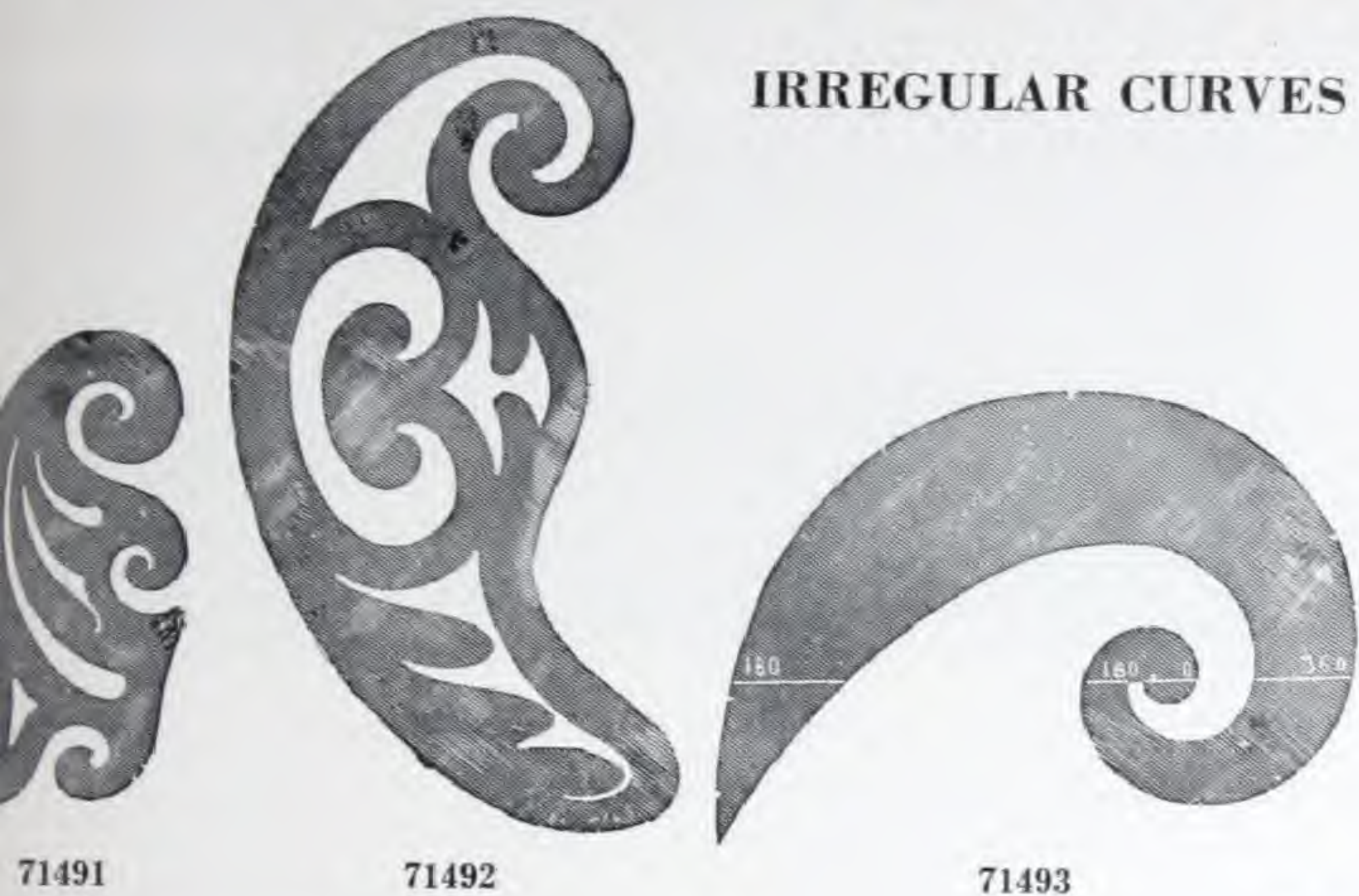


71481

EACH

71481 Of transparent celluloid, per set of above 56 Curves, in case.
Above curves available singly, also.

See Price List Inside Back Cover



- 91

Combination Curve of transparent celluloid.

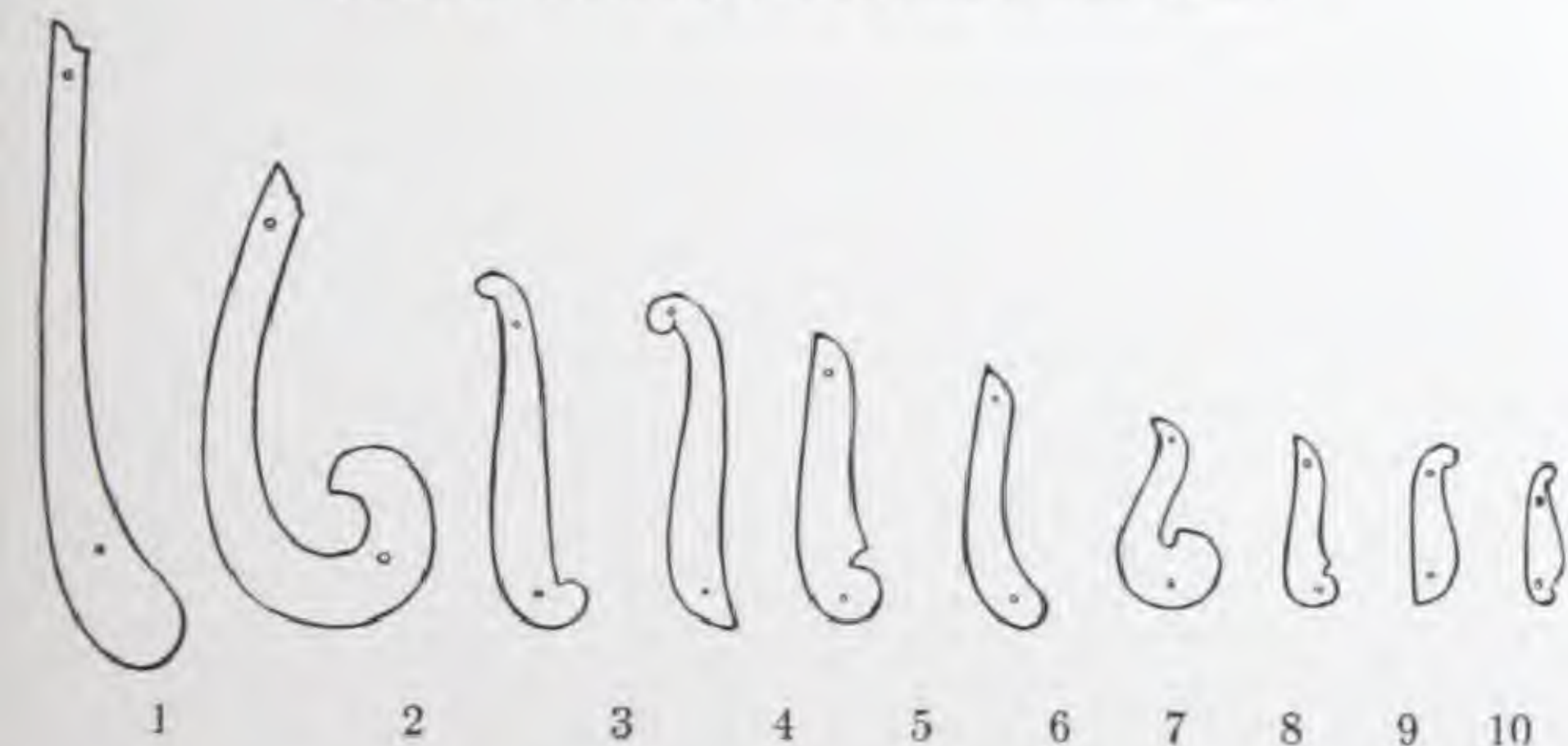
92

Combination Curve of transparent celluloid.

93

Logarithmic Spiral Curve of transparent celluloid.
- EACH

CURVES FOR MECHANICAL ENGINEERS



- 94

Transparent Celluloid Curves, Highly Polished.

1

2

3

4

5

6

7

8

9

10
- H.
- 95

Set of 10 Curves as above in polished wood box.
- PER SET

See Price List Inside Back Cover

RAILROAD CURVES

TRANSPARENT CELLULOID



71503

PER SET

71501 Transparent Celluloid Railroad Curves, 17 in set, 12 to 60-inch radius
viz.: 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60
inches, in wooden box.

71502 Transparent Celluloid Railroad Curves, 24 in set, 2 to 24-inch radius,
viz.: 2, 2½, 3, 3½, 4, 4½, 5, 5½, 6, 6½, 7, 7½, 8, 8½, 9, 9½, 10,
12, 14, 16, 18, 20, 22, 24 inches, in wooden box with partition.

71503 Transparent Celluloid Railroad Curves, with Tangent, 41 in set,
marked in degrees and inches to 100 feet scale, viz.:

| | | | |
|---------------------|--------------------|-------------------|--------------------|
| 0° 30' = 114.59 in. | 3° 30' = 16.37 in. | 6° 00' = 9.55 in. | 8° 30' = 6.75 in. |
| 1° 00' = 57.30 in. | 3° 45' = 15.28 in. | 6° 15' = 9.17 in. | 8° 45' = 6.55 in. |
| 1° 15' = 45.84 in. | 4° 00' = 14.33 in. | 6° 30' = 8.82 in. | 9° 00' = 6.37 in. |
| 1° 30' = 38.20 in. | 4° 15' = 13.48 in. | 6° 45' = 8.49 in. | 9° 15' = 6.20 in. |
| 1° 45' = 32.74 in. | 4° 30' = 12.73 in. | 7° 00' = 8.19 in. | 9° 30' = 6.04 in. |
| 2° 00' = 28.65 in. | 4° 45' = 12.07 in. | 7° 15' = 7.91 in. | 9° 45' = 5.88 in. |
| 2° 15' = 25.47 in. | 5° 00' = 11.46 in. | 7° 30' = 7.64 in. | 10° 00' = 5.74 in. |
| 2° 30' = 22.92 in. | 5° 15' = 10.92 in. | 7° 45' = 7.40 in. | 10° 30' = 5.48 in. |
| 2° 45' = 20.84 in. | 5° 30' = 10.42 in. | 8° 00' = 7.17 in. | 11° 00' = 5.22 in. |
| 3° 00' = 19.10 in. | 5° 45' = 9.97 in. | 8° 15' = 6.95 in. | 11° 30' = 4.99 in. |
| 3° 15' = 17.63 in. | | | |

In wooden box with partition, per set.

71504 Transparent Celluloid Railroad Curves, with Tangent, 55 in set,
marked in degrees and inches to 100 feet scale, viz.:

| | | | |
|---------------------|--------------------|--------------------|--------------------|
| 0° 15' = 229.18 in. | 3° 45' = 15.28 in. | 7° 15' = 7.91 in. | 11° 30' = 4.99 in. |
| 0° 30' = 114.59 in. | 4° 00' = 14.33 in. | 7° 30' = 7.64 in. | 12° 00' = 4.78 in. |
| 0° 45' = 76.39 in. | 4° 15' = 13.48 in. | 7° 45' = 7.40 in. | 12° 30' = 4.59 in. |
| 1° 00' = 57.30 in. | 4° 30' = 12.73 in. | 8° 00' = 7.17 in. | 13° 00' = 4.42 in. |
| 1° 15' = 45.84 in. | 4° 45' = 12.07 in. | 8° 15' = 6.95 in. | 13° 30' = 4.25 in. |
| 1° 30' = 38.20 in. | 5° 00' = 11.46 in. | 8° 30' = 6.75 in. | 14° 00' = 4.10 in. |
| 1° 45' = 32.74 in. | 5° 15' = 10.92 in. | 8° 45' = 6.55 in. | 14° 30' = 3.96 in. |
| 2° 00' = 28.65 in. | 5° 30' = 10.42 in. | 9° 00' = 6.37 in. | 15° 00' = 3.83 in. |
| 2° 15' = 25.47 in. | 5° 45' = 9.97 in. | 9° 15' = 6.20 in. | 16° 00' = 3.59 in. |
| 2° 30' = 22.92 in. | 6° 00' = 9.55 in. | 9° 30' = 6.04 in. | 17° 00' = 3.38 in. |
| 2° 45' = 20.84 in. | 6° 15' = 9.17 in. | 9° 45' = 5.88 in. | 18° 00' = 3.20 in. |
| 3° 00' = 19.10 in. | 6° 30' = 8.82 in. | 10° 00' = 5.74 in. | 19° 00' = 3.03 in. |
| 3° 15' = 17.63 in. | 6° 45' = 8.49 in. | 10° 30' = 5.48 in. | 20° 00' = 2.88 in. |
| 3° 30' = 16.37 in. | 7° 00' = 8.19 in. | 11° 00' = 5.22 in. | |

In wooden box with partition, per set.

EACH

71505 Single Railroad Curves of Transparent Celluloid

71506 Single Railroad Curves of Transparent Celluloid, with Tangent

See Price List Inside Back Cover

BOXWOOD AND WHITE EDGE SCALES

U. S. STANDARD. MACHINE DIVIDED.

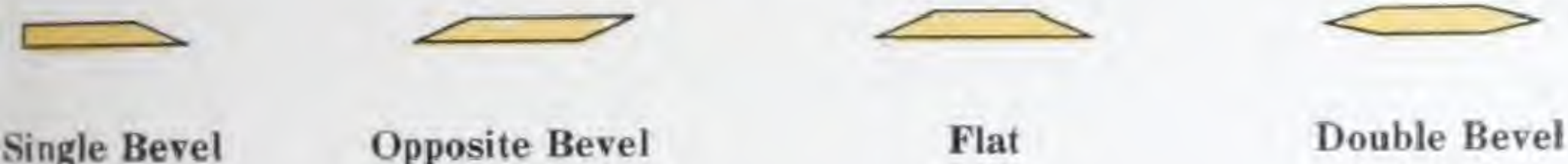
Elliott's Boxwood Scales are made of carefully selected, first quality, seasoned boxwood, which insures their lasting quality and accuracy.

Our White Edge Scales are made with carefully inlaid seasoned celluloid, which eliminates shrinkage and expansion. The graduations are sharp and distinct, therefore easily read.

To assist you in ordering, and, also, to avoid errors and delays, we show below the various shapes of scales and the methods of dividing: Open divided and Full divided.

NOTE—Full divided scales are sometimes called chain scales.

FLAT SCALES



Single Bevel Opposite Bevel Flat Double Bevel

TRIANGULAR SCALES

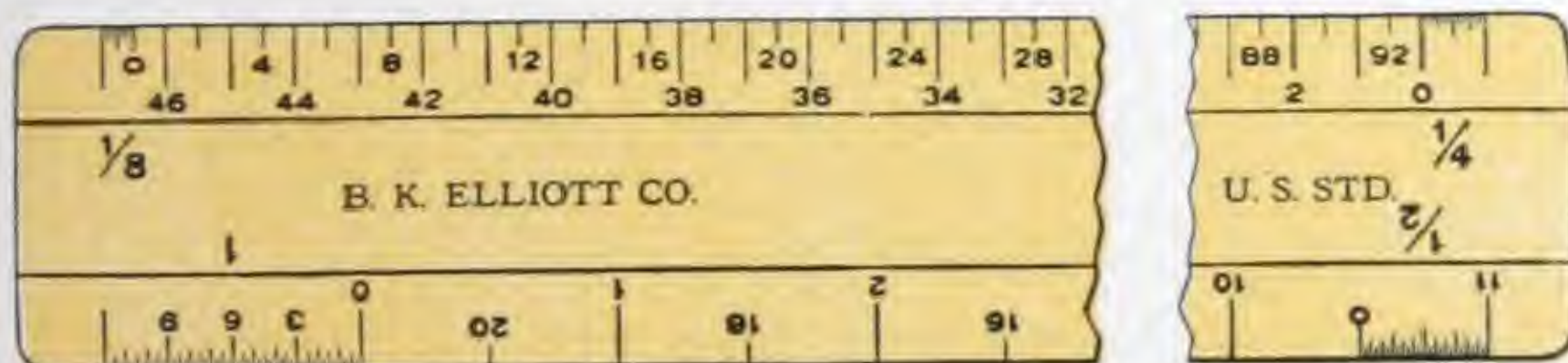


Regular Shape

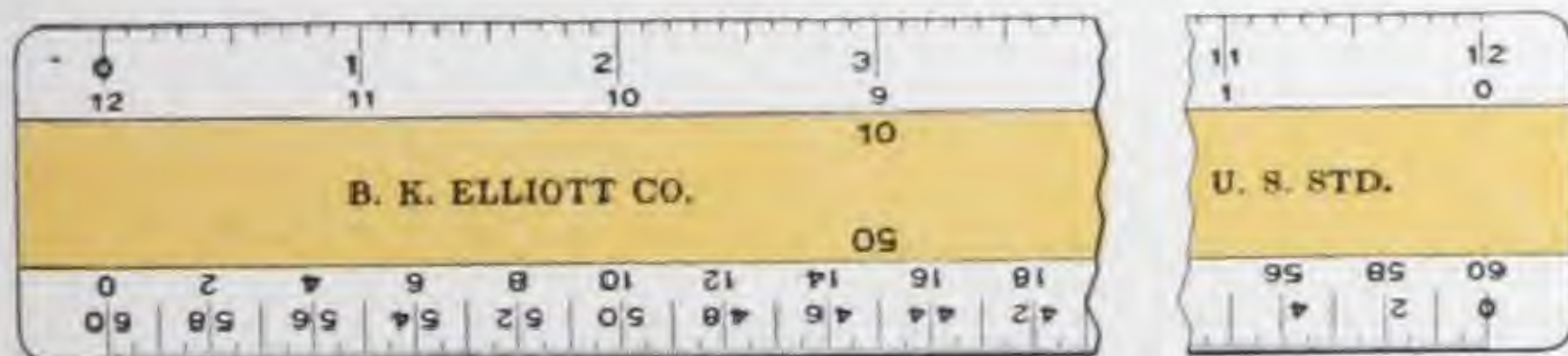
End views of both the regular and improved shapes of triangular scales, are illustrated. In addition to the full surface bearing on the paper, the divisions on the edge of the regular shaped scale wear longer than the improved shape. However, the improved shape prevents wearing of the drawing surface and affords a better angle of vision. Specify shape desired.



Improved Shape



Above shows a plain boxwood scale, open divided, especially adapted for architectural and mechanical engineering use.



Above shows a white edge boxwood scale, full divided. Recommended for civil engineering work.

All chain scales are full divided.

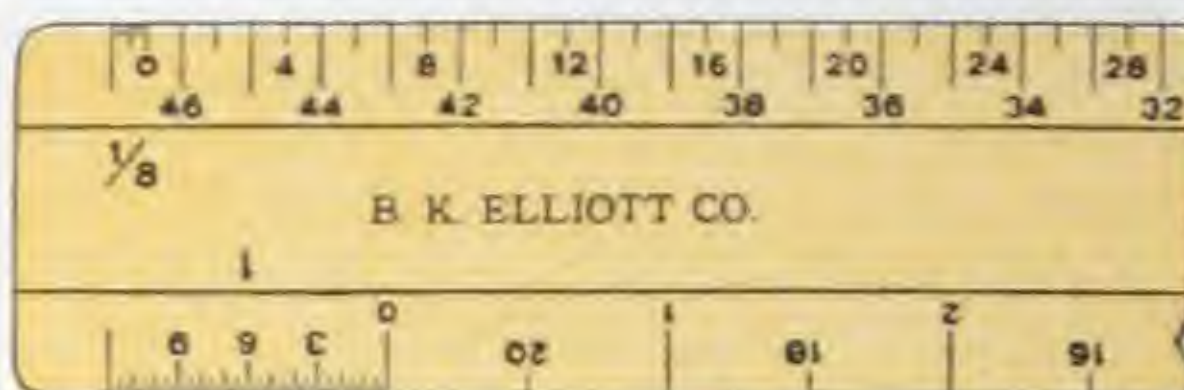
Scales made to order with special graduations. Write for quotations, send sketch showing divisions and numbering desired.



FLAT BOXWOOD SCALES

U. S. STANDARD. MACHINE DIVIDED.

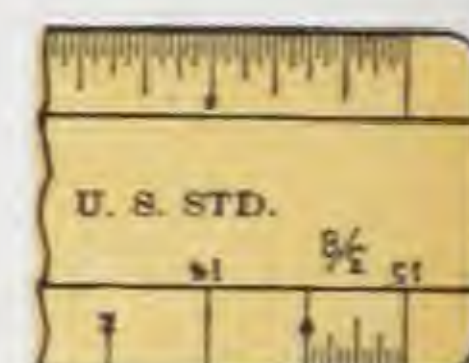
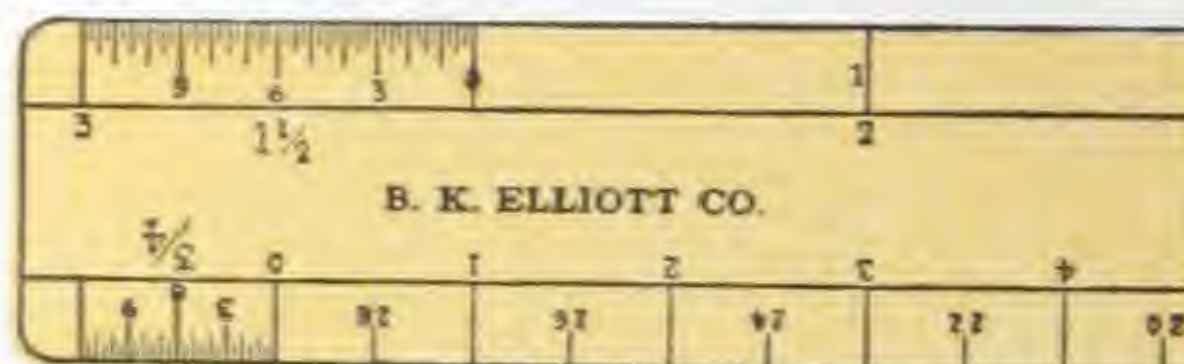
Flat Scales are easier read, more convenient, less liable to cause errors and cost less to replace than Triangular Scales.



Open Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 Inch to Foot

- | | | |
|--------|-----------------------------------|------|
| 715201 | Boxwood, 6-inch Flat Scale..... | EACH |
| 715202 | Boxwood, 12-inch Flat Scale..... | |
| 715203 | Boxwood, 12½-inch Flat Scale..... | |
| 715204 | Boxwood, 18-inch Flat Scale..... | |

covers 100 feet on $\frac{1}{8}$ -inch, 50 feet on $\frac{1}{4}$ -inch, and 25 feet on $\frac{1}{2}$ -inch Scale.

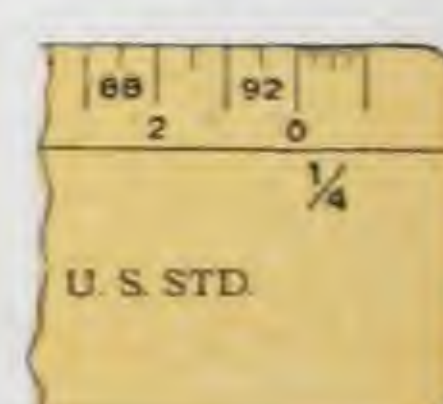
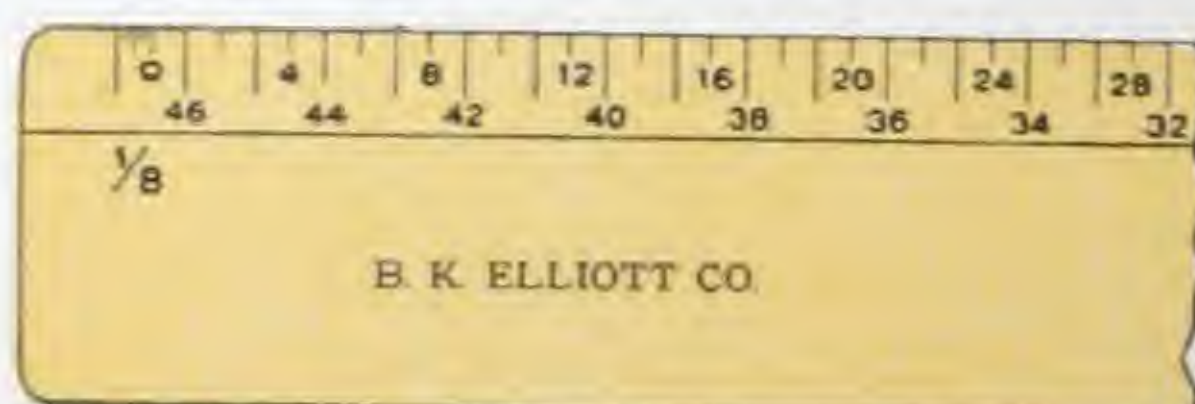


Open Divided $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 Inches to Foot

- | | | |
|--------|----------------------------------|------|
| 715205 | Boxwood, 6-inch Flat Scale..... | EACH |
| 715206 | Boxwood, 12-inch Flat Scale..... | |
| 715207 | Boxwood, 18-inch Flat Scale..... | |

OPPOSITE BEVEL SCALES

Opposite Bevel Scales are an improvement over regular flat shapes, as they are more readily picked up and present only one graduated edge to the eye when in use.



Open Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 Inch to Foot

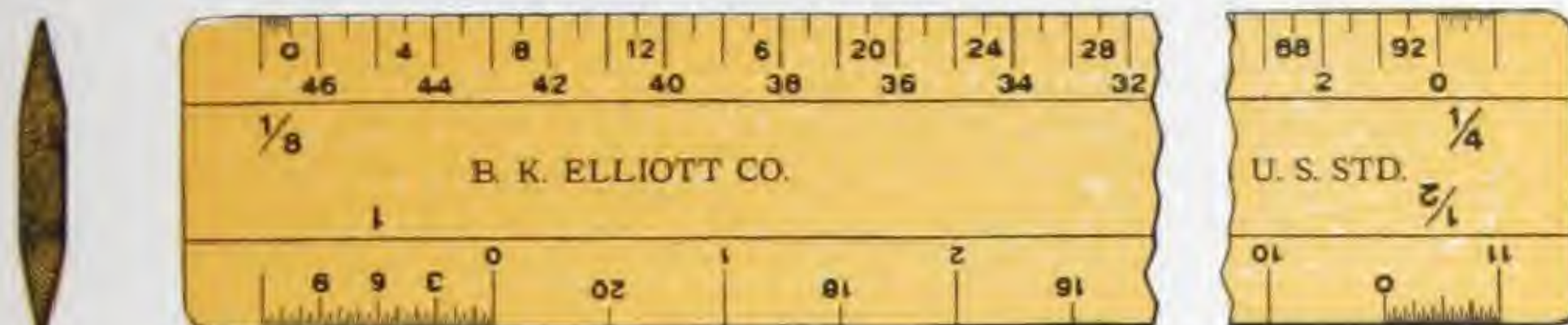
- | | | |
|---|--|------|
| 715208 | Boxwood, 6-inch Opposite Bevel Scale..... | EACH |
| 715209 | Boxwood, 12-inch Opposite Bevel Scale..... | |
| $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 Inches to Foot | | |
| 715210 | Boxwood, 6-inch Opposite Bevel Scale..... | EACH |
| 715211 | Boxwood, 12-inch Opposite Bevel Scale..... | |

See Price List Inside Back Cover

FLAT BOXWOOD SCALES

U. S. STANDARD. MACHINE DIVIDED.

DOUBLE BEVEL SCALES

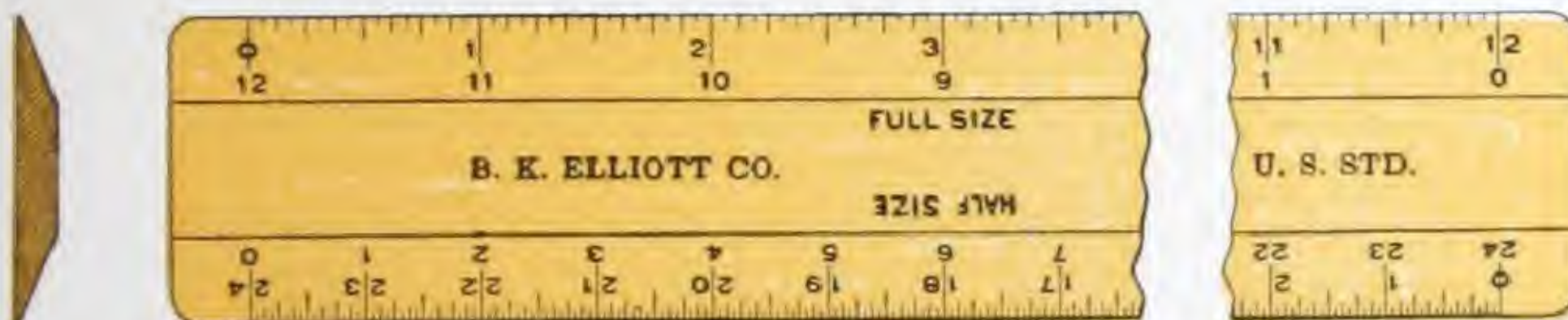


Open Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 Inches to Foot

EACH

- 71531 Boxwood, 6-inch Double Bevel Scale.....
71532 Boxwood, 12-inch Double Bevel Scale.....

FULL SIZE GRADUATIONS

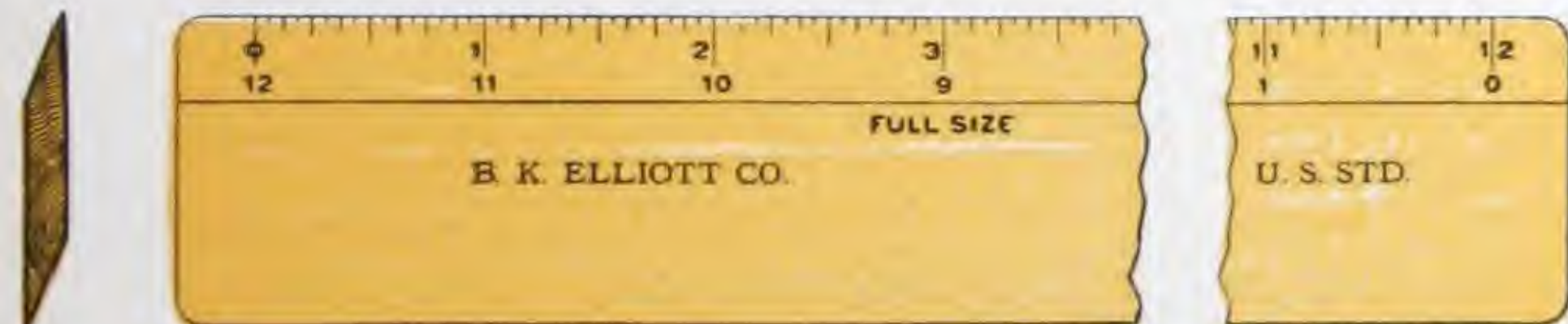


Full Divided

EACH

- 71533 Boxwood, 12-inch $\frac{1}{8}$ and $\frac{1}{4}$ -size Flat Scale.....
71534 Boxwood, 12-inch $\frac{1}{2}$ and full-size Flat Scale.....

OPPOSITE BEVEL



Full Divided

EACH

- 71535 Boxwood, 12-inch $\frac{1}{8}$ and $\frac{1}{4}$ -size Opposite Bevel Scale.....
71536 Boxwood, 12-inch $\frac{1}{2}$ and full-size Opposite Bevel Scale.....

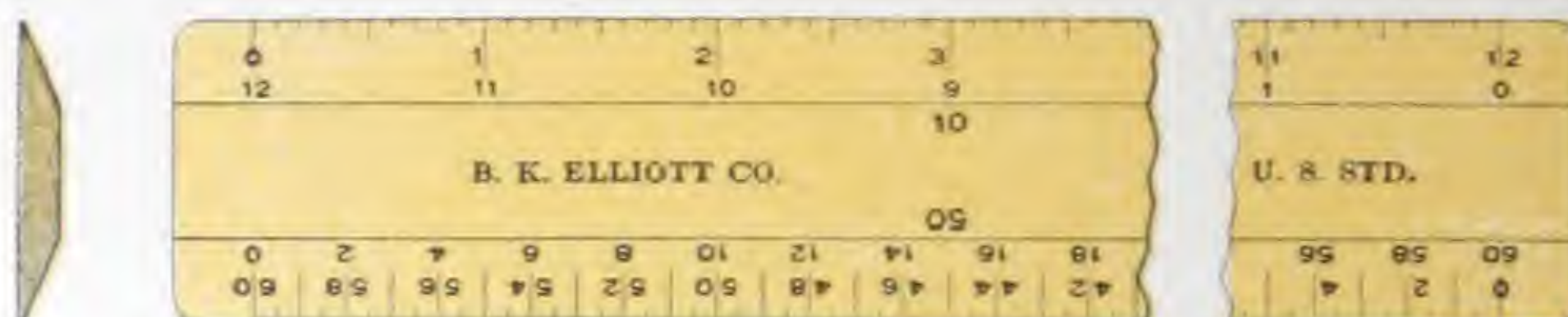
Special Scales of any desired graduations or combinations made to order on short notice. To insure prompt attention and to avoid delays, always send sketch showing graduations desired.

See Price List Inside Back Cover

FLAT BOXWOOD SCALES

U. S. STANDARD. MACHINE DIVIDED.

FLAT CHAIN SCALES

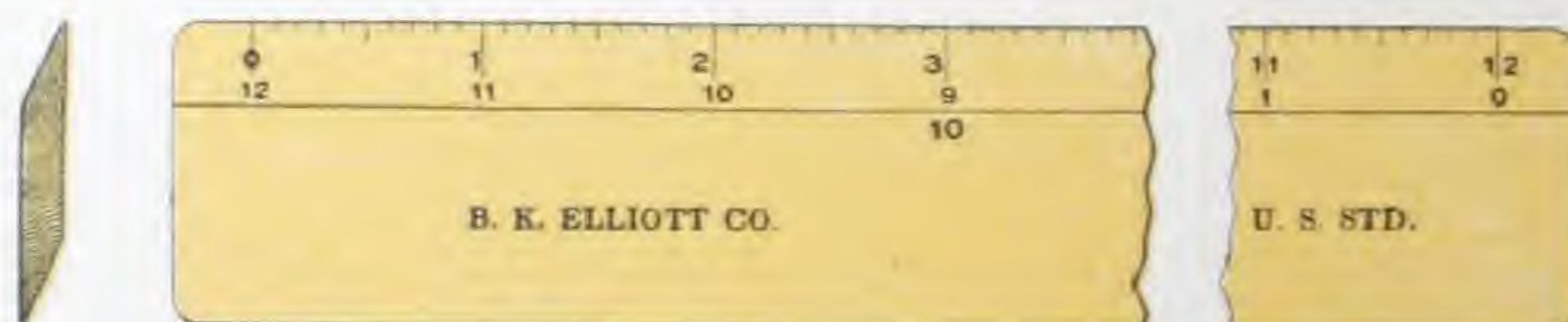


FULL DIVIDED

EACH

- 715401 Boxwood, 6-inch Scale 10 x 50.
- 715402 Boxwood, 12-inch Scale 10 x 50.
- 715403 Boxwood, 6-inch Scale 20 x 40.
- 715404 Boxwood, 12-inch Scale 20 x 40.
- 715405 Boxwood, 6-inch Scale 30 x 60.
- 715406 Boxwood, 12-inch Scale 30 x 60.
- 715407 Boxwood, 6-inch Scale 80 x 100.
- 715408 Boxwood, 12-inch Scale 80 x 100.

OPPOSITE BEVEL SCALES



EACH

- 715409 Boxwood, 6-inch Scale 10 x 50.
- 715410 Boxwood, 12-inch Scale 10 x 50.
- 715411 Boxwood, 12-inch Scale 20 x 40.
- 715412 Boxwood, 12-inch Scale 30 x 60.
- 715413 Boxwood, 12-inch Scale 80 x 100.

See Price List Inside Back Cover

TRIANGULAR BOXWOOD SCALES

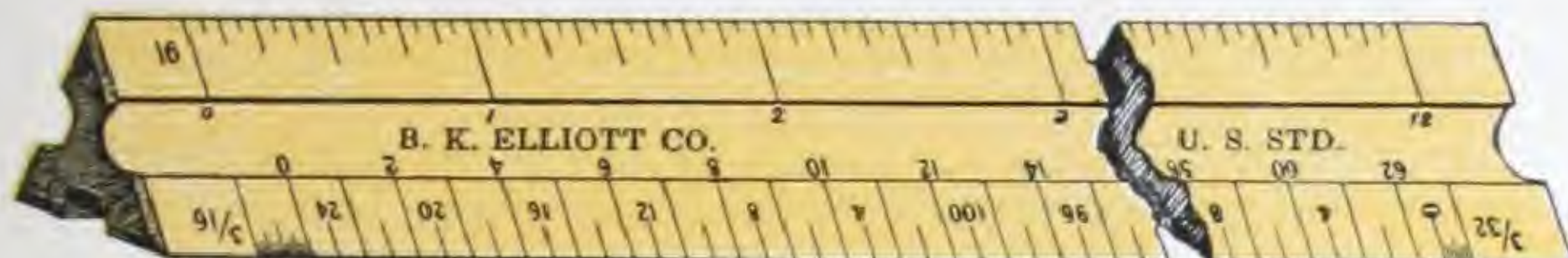
FOR ARCHITECTS AND MECHANICAL ENGINEERS

U. S. Standard. Machine Divided.



Regular Shape

REGULAR SHAPE



Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3, $\frac{3}{16}$, $\frac{3}{32}$, Inches to the Foot, $\frac{1}{16}$ Inch

EACH

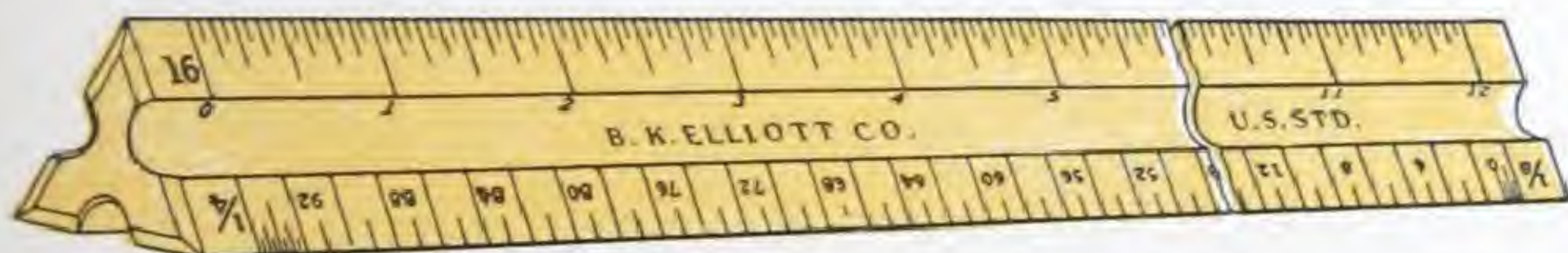
- 71551 Boxwood, 6-inch Triangular Architects' Scale.
71552 Boxwood, 12-inch Triangular Architects' Scale.



Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3, 2, 4 Inches to the Foot, $\frac{1}{16}$ Inch

EACH

- 71553 Boxwood, 12-inch Triangular Architects' Scale.

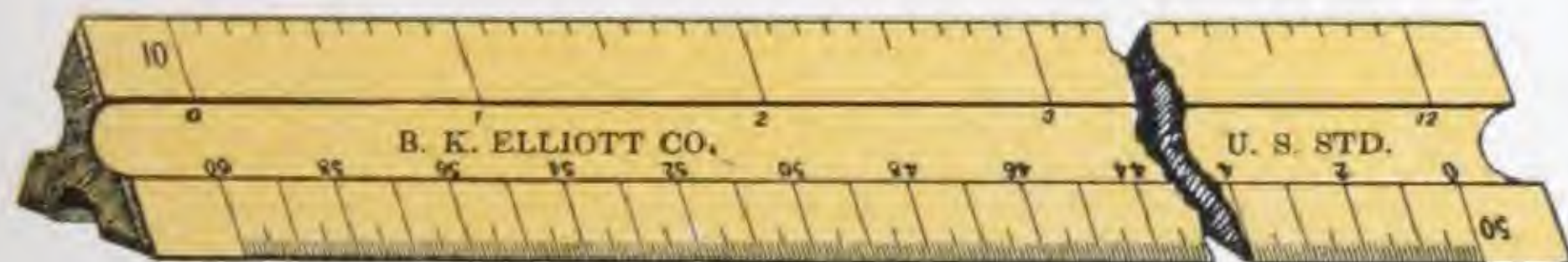


Divided $\frac{3}{8}$, $\frac{3}{4}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, 50, Half and Full Size

EACH

- 71554 Boxwood, 12-inch Triangular Architects' Scale.

FOR CIVIL ENGINEERS AND SURVEYORS



Divided 10, 20, 30, 40, 50, 60 Parts to the Inch

EACH

- 71555 Boxwood, 6-inch Triangular Engineers' Scale.
71556 Boxwood, 12-inch Triangular Engineers' Scale.

Divided 20, 30, 40, 50, 60, 80 Parts to the Inch

EACH

- 71557 Boxwood, 12-inch Triangular Engineers' Scale.

See Price List Inside Back Cover

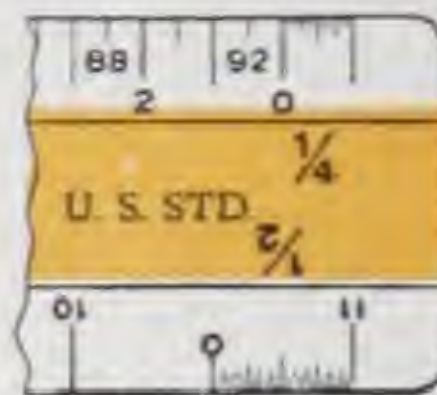
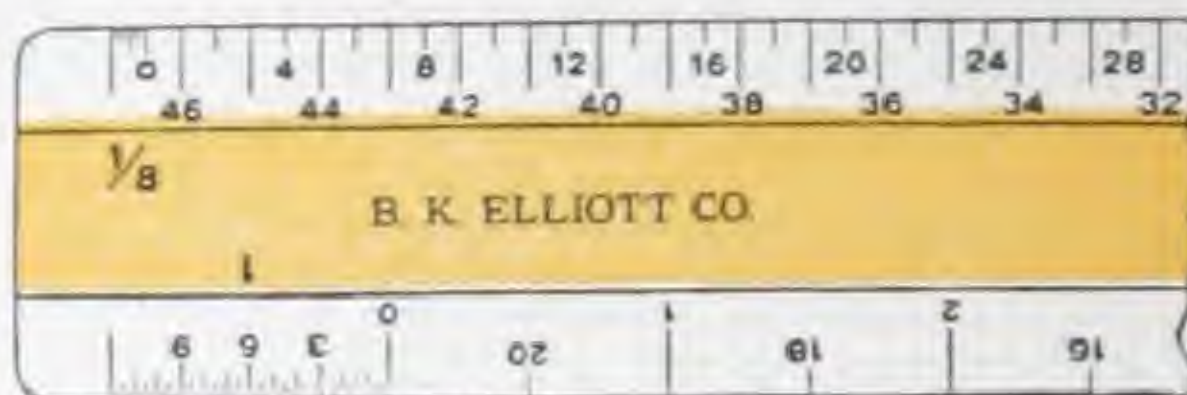


B. K. ELLIOTT COMPANY



FLAT WHITE EDGE SCALES

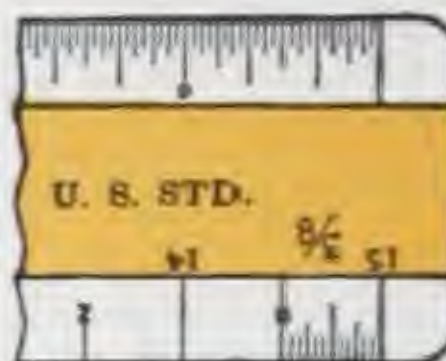
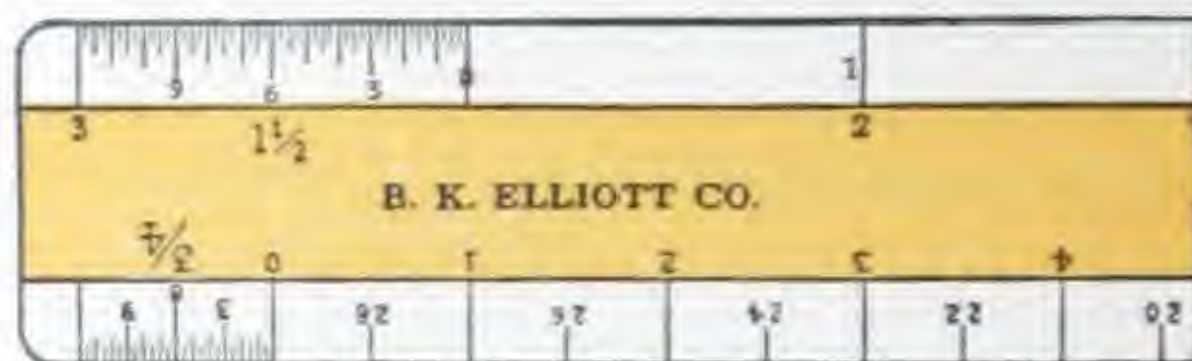
U. S. STANDARD. MACHINE DIVIDED.
FOR ARCHITECTS AND MECHANICAL ENGINEERS



Open Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 Inch to Foot

EACH

- 71561 White Edge, 6-inch Flat Scale.
71562 White Edge, 12-inch Flat Scale.
71563 White Edge, 12 $\frac{1}{2}$ -inch Flat Scale.
covers 100 feet on $\frac{1}{8}$ -inch, 50 feet on $\frac{1}{4}$ -inch, and 25 feet on $\frac{1}{2}$ -inch Scale.



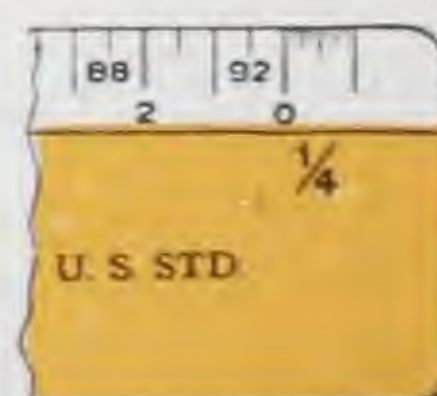
Open Divided $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 Inches to Foot

EACH

- 71564 White Edge, 6-inch Flat Scale.
71565 White Edge, 12-inch Flat Scale.

OPPOSITE BEVEL SCALES

Opposite Bevel Scales are an improvement over regular flat shapes as they are more readily picked up and present only one graduated edge to the eye when in use



Open Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 Inch to Foot

EACH

- 71566 White Edge, 6-inch Opposite Bevel Scale.
71567 White Edge, 12-inch Opposite Bevel Scale.

$\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 Inches to Foot

EACH

- 71568 White Edge, 6-inch Opposite Bevel Scale.
71569 White Edge, 12-inch Opposite Bevel Scale.

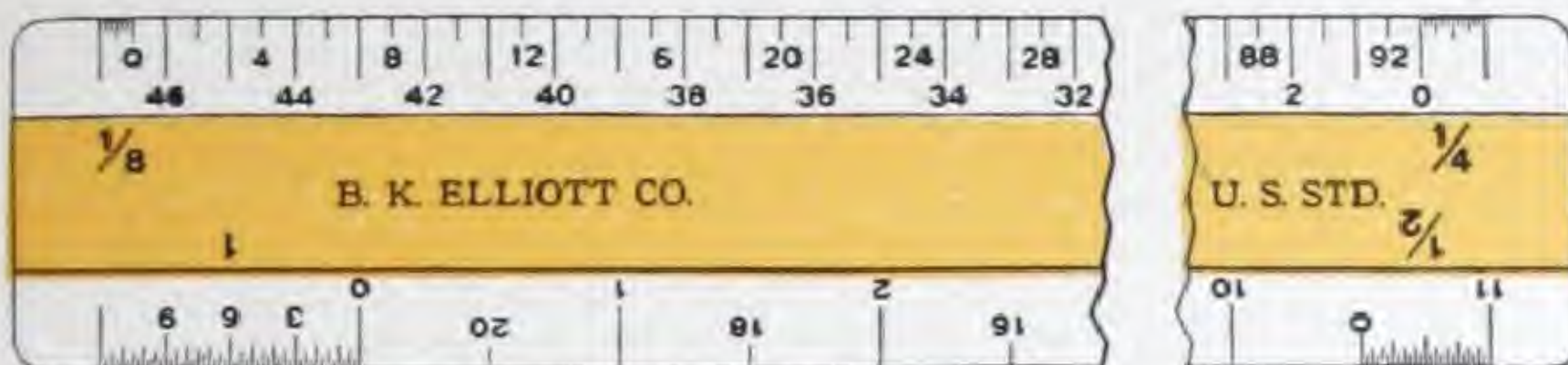
See Price List Inside Back Cover

FLAT WHITE EDGE SCALES

U. S. STANDARD. MACHINE DIVIDED.

DOUBLE BEVEL SCALES

OPEN DIVIDED



$\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 Inches to Foot

EACH

- 71571 White Edge, 6-inch Double Bevel Scale.....
- 71572 White Edge, 12-inch Double Bevel Scale.....
- 71573 White Edge, 18-inch Double Bevel Scale.....
- 71574 White Edge, 24-inch Double Bevel Scale.....

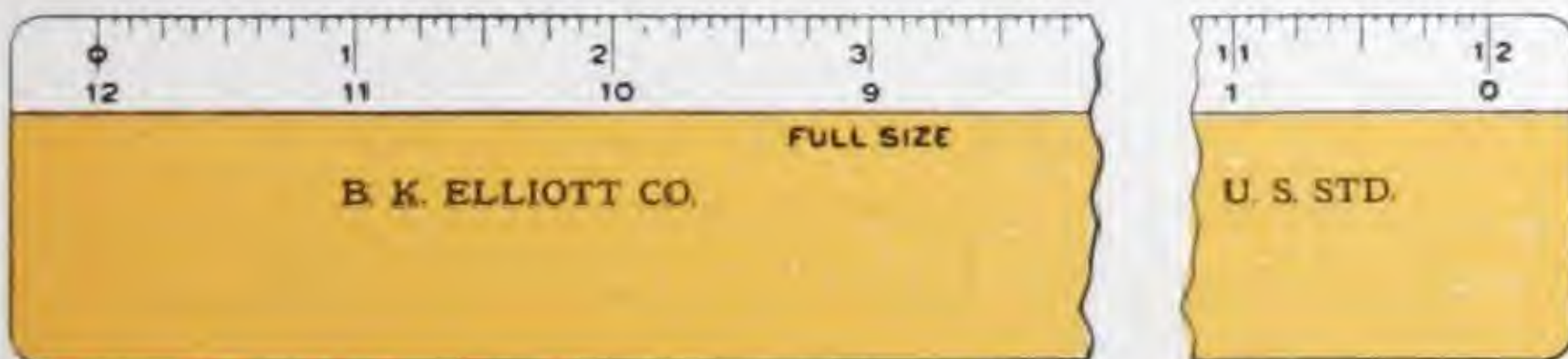
FULL SIZE GRADUATIONS



EACH

- 71575 White Edge, 12-inch, $\frac{1}{8}$ and $\frac{1}{4}$ size, Flat Scale.....
- 71576 White Edge, 12-inch, $\frac{1}{2}$ and full size, Flat Scale.....

OPPOSITE BEVEL



EACH

- 71577 White Edge, 12-inch— $\frac{1}{8}$ and $\frac{1}{4}$ size Opposite Bevel Scale.....
- 71578 White Edge, 6-inch— $\frac{1}{2}$ and full size Opposite Bevel Scale.....
- 71579 White Edge, 12-inch— $\frac{1}{2}$ and full size Opposite Bevel Scale.....

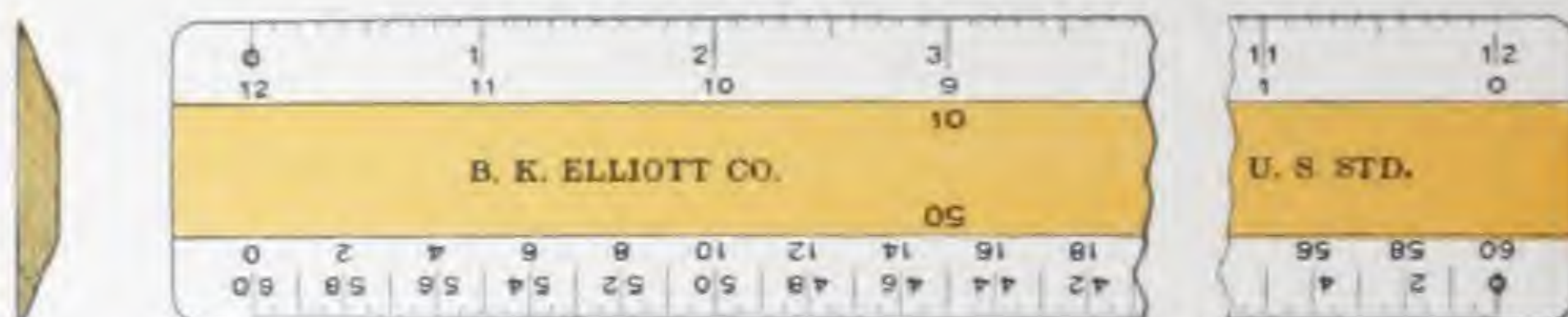
Special Scales of any desired graduations or combinations made to order on short notice. To insure prompt attention and to avoid delays, always send sketch showing graduations and numbering desired.

See Price List Inside Back Cover

FLAT WHITE EDGE SCALES

U. S. STANDARD. MACHINE DIVIDED.

CHAIN SCALES

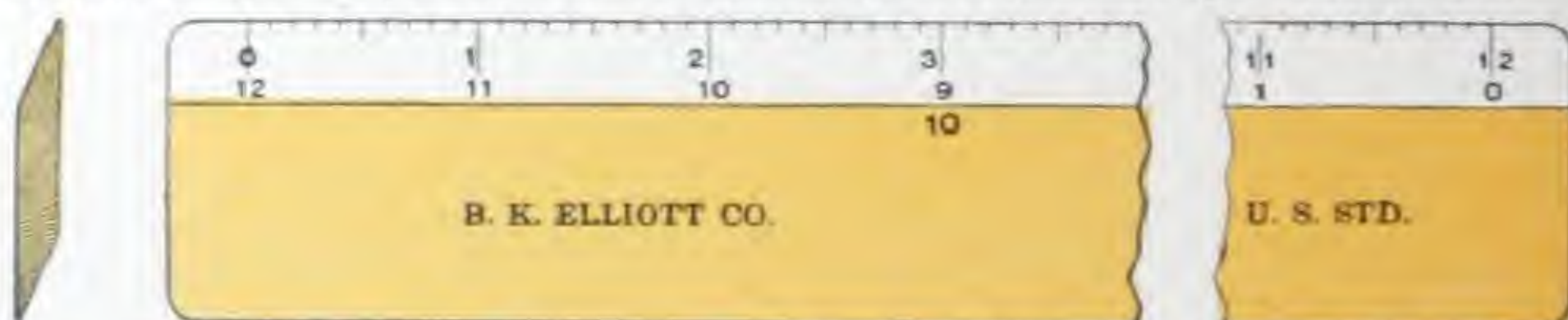


EACH

| | |
|--------|---|
| 715801 | White Edge, 6-inch Chain Scale 10 x 50..... |
| 715802 | White Edge, 12-inch Chain Scale 10 x 50..... |
| 715803 | White Edge, 6-inch Chain Scale 20 x 40..... |
| 715804 | White Edge, 12-inch Chain Scale 20 x 40..... |
| 715805 | White Edge, 6-inch Chain Scale 30 x 60..... |
| 715806 | White Edge, 12-inch Chain Scale 30 x 60..... |
| 715807 | White Edge, 6-inch Chain Scale 80 x 100..... |
| 715808 | White Edge, 12-inch Chain Scale 80 x 100..... |

OPPOSITE BEVEL SCALES

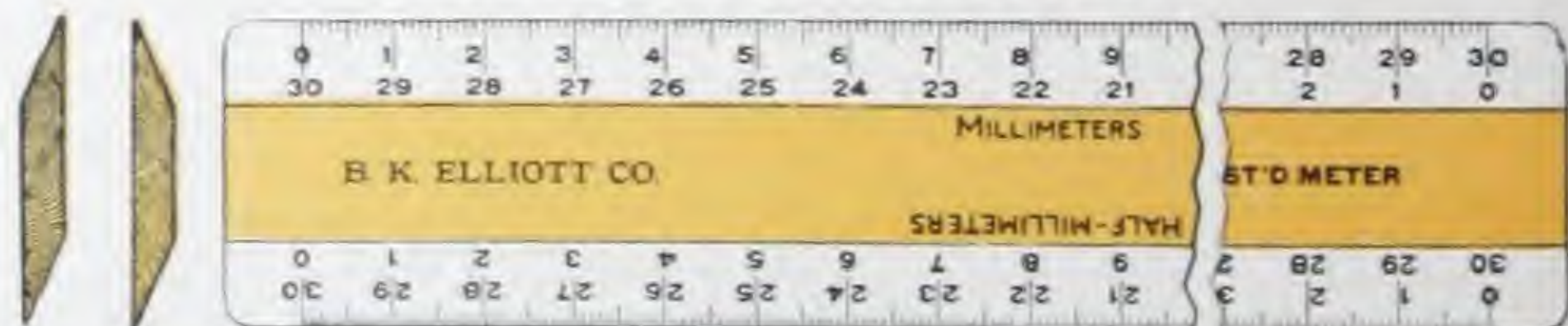
These scales are an improvement over the regular flat scales, as they are more readily picked up, and present but one graduated bevel to the eye when in use.



EACH

| | |
|--------|---|
| 715809 | White Edge, 6-inch Chain Scale 10 x 50..... |
| 715810 | White Edge, 12-inch Chain Scale 10 x 50..... |
| 715811 | White Edge, 12-inch Chain Scale 20 x 40..... |
| 715812 | White Edge, 12-inch Chain Scale 30 x 60..... |
| 715813 | White Edge, 12-inch Chain Scale 80 x 100..... |

METRIC GRADUATIONS



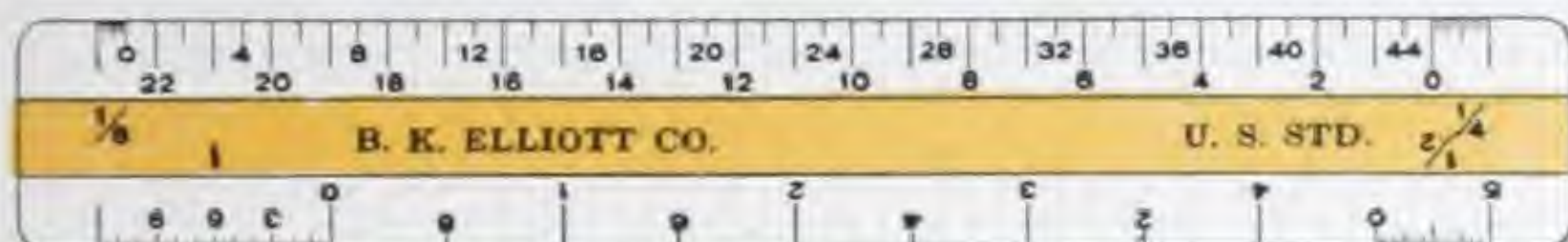
EACH

| | |
|--------|--|
| 715814 | White Edge, Scale 10 centimeters long, Flat or Opposite Bevel..... |
| 715815 | White Edge, Scale 20 centimeters long, Flat or Opposite Bevel..... |
| 715816 | White Edge, Scale 30 centimeters long, Flat or Opposite Bevel..... |
| 715817 | White Edge, Scale 50 centimeters long, Flat or Opposite Bevel..... |

See Price List Inside Back Cover

POCKET WHITE EDGE SCALES

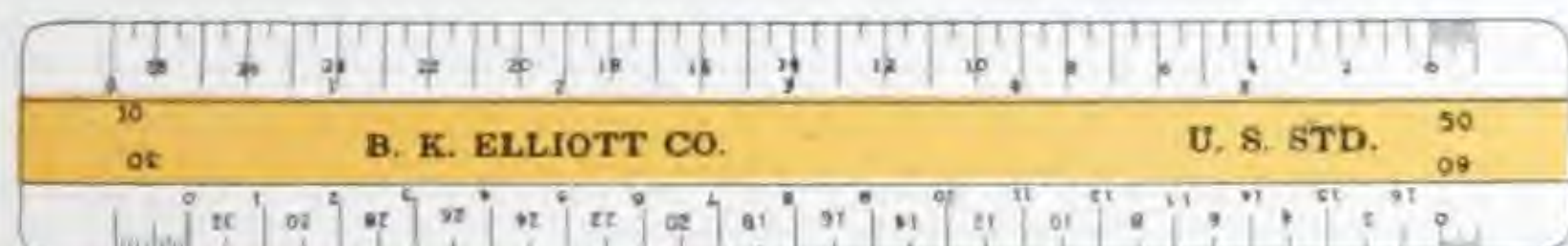
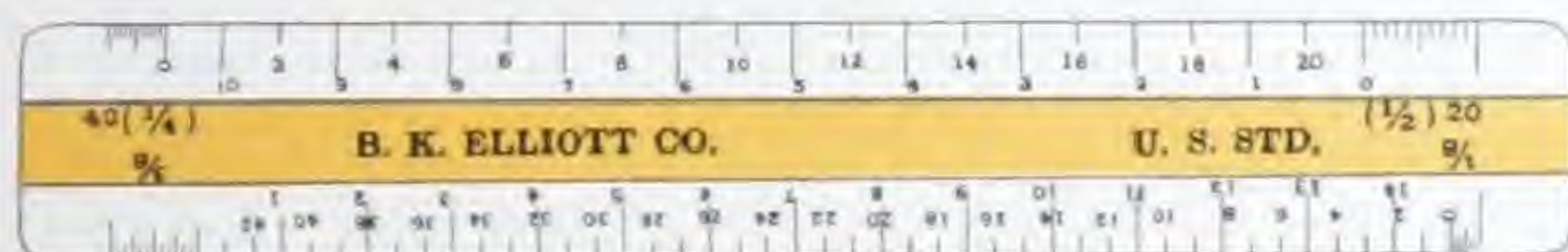
U. S. Standard. Machine Divided.



EACH

- 1591 Flat White Edge Scale, 6 inches, both sides beveled and divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$ and 3 inches to the foot, less than 1 inch wide, in leather sheath, very convenient for the pocket.
- 1592 Same as 71591 but divided 10, 20, 30, 50 parts to inch.
- 1593 Same as 71591 but divided 10, 40, 50, 60 parts to inch.
- 1594 Same as 71591 but divided 10, 50, 20, 40 parts to inch.
- 1595 Same as 71591 but divided 20, 40, 80, 100 parts to inch.

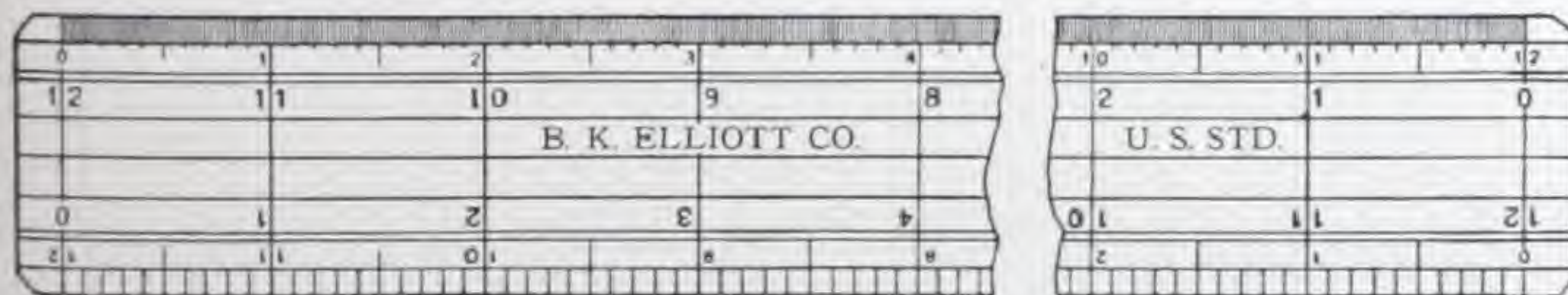
COVELL POCKET SCALE



EACH

- 1596 Covell Pocket Scale, 6 inches.
- A scale every Architect and Engineer should own. White edge flat pocket scale divided $\frac{1}{8}$, $\frac{3}{8}$, $\frac{1}{4}$, and $\frac{1}{2}$ on one side and 10, 30, 50, and 60 parts to the inch on the other side. Scale comes in leather sheath.

UNDERWRITER'S SCALE



EACH

- 1597 Flat Transparent Celluloid Underwriter's Scale, 6 inches, both edges beveled and divided 10 x 50 parts to the inch.
- 1598 Flat Underwriter's Scale like No. 71597, but 12 inches.

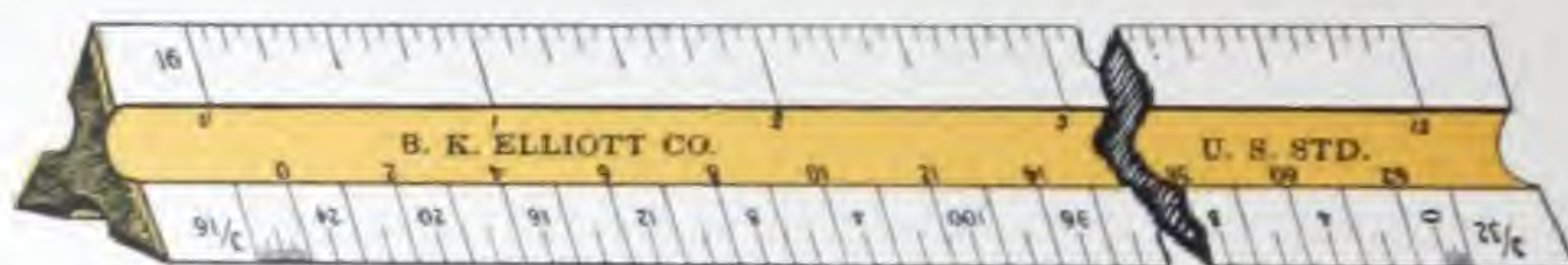
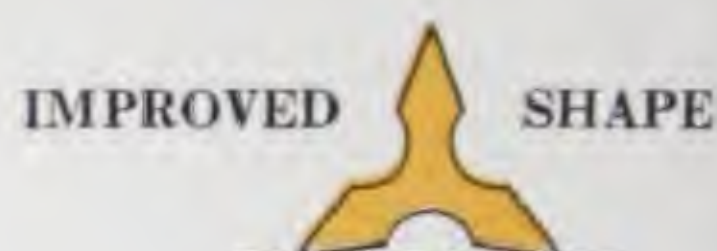
See Price List Inside Back Cover



TRIANGULAR WHITE EDGE SCALES

U. S. Standard. Machine Divided.

FOR ARCHITECTS AND MECHANICAL ENGINEERS



Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3, $\frac{3}{16}$, $\frac{3}{32}$ inches to the foot, $\frac{1}{16}$ inch.

- | | | |
|-------|---|------|
| | | EACH |
| 71601 | White Edge, 6-inch Triangular Scale, regular shape..... | |
| 71602 | White Edge, 12-inch Triangular Scale, regular shape..... | |
| 71603 | White Edge, 6-inch Triangular Scale, improved shape..... | |
| 71604 | White Edge, 12-inch Triangular Scale, improved shape..... | |



Divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3, 2, 4 inches to the foot, $\frac{1}{16}$ inch.

- | | | |
|-------|---|------|
| | | EACH |
| 71605 | White Edge, 12-inch Triangular Scale, regular shape..... | |
| 71606 | White Edge, 12-inch Triangular Scale, improved shape..... | |



Divided $\frac{3}{8}$, $\frac{3}{4}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1, 50 and half and full size.

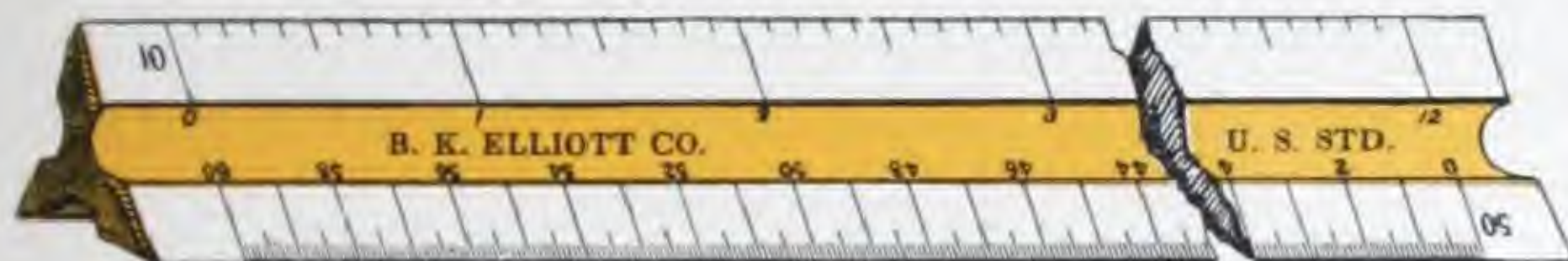
- | | | |
|-------|---|------|
| | | EACH |
| 71607 | White Edge, 12-inch Triangular Scale, regular shape..... | |
| 71608 | White Edge, 12-inch Triangular Scale, improved shape..... | |

See Price List Inside Back Cover

TRIANGULAR WHITE EDGE SCALES

U. S. Standard. Machine Divided.

FOR CIVIL ENGINEERS AND SURVEYORS



Divided 10, 20, 30, 40, 50, 60 parts to the inch.

EACH

- 71611 White Edge, 6-inch Triangular Engineers' Scale, regular shape.....
- 71612 White Edge, 12-inch Triangular Engineers' Scale, regular shape.....
- 71613 White Edge, 6-inch Triangular Engineers' Scale, improved shape.....
- 71614 White Edge, 12-inch Triangular Engineers' Scale, improved shape.....



TRIANGULAR SCALE GUARDS

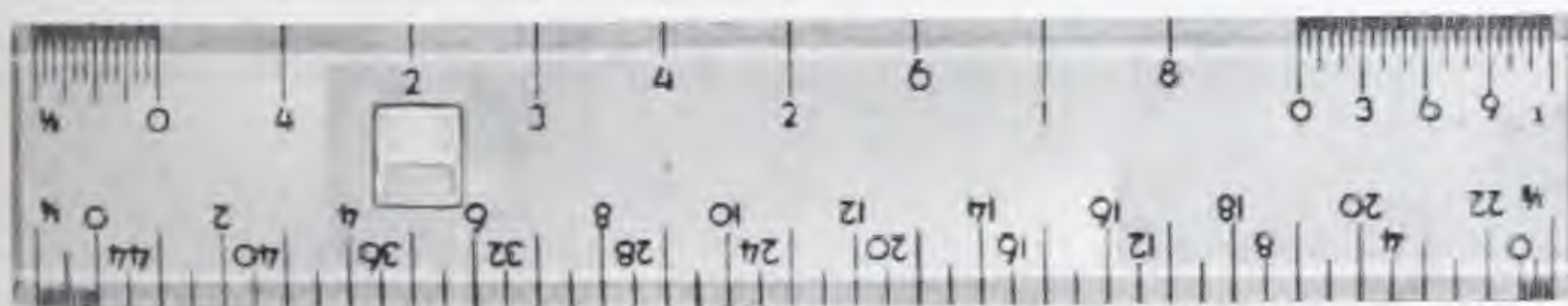


EACH

- 71615 Triangular Scale Guard, nickel plated.....

Special Scales of any desired graduations or combinations made to order on short notice. To insure prompt attention and to avoid delays, always send sketch showing graduations desired.

TRANSPARENT SCALES



An inexpensive plastic scale rule, convenient for pocket or notebook.

EACH

- 71616 Plastic, 6-inch Scale Rule, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1" - 1'.....
- 71617 Plastic, 6-inch Scale Rule, 10 x 50.....

CLEANING SCALES

Scales should not be cleaned with soap and water as this tends to warp both the wood and celluloid. Use powdered pumice and oil applied with a cloth or absorbent cotton.

See Price List Inside Back Cover



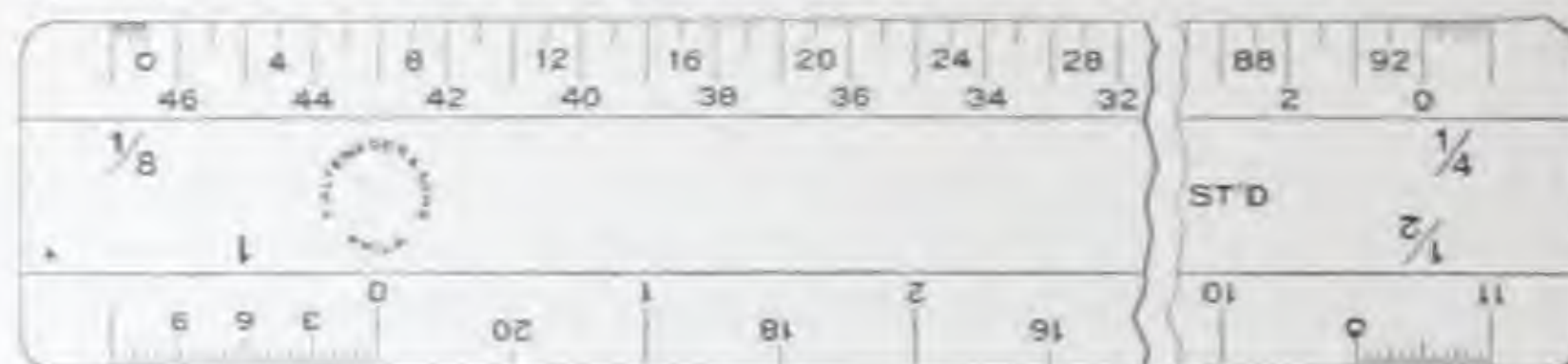
ALTENEDER DRAFTING SCALES

Alteneder drafting scales are of the same high quality as Alteneder drawing instruments and are recognized as superior to any on the market today. The graduations are engine divided to United States standard measurements. They are made from seasoned boxwood and celluloid, the lines and figures are unusually distinct and permanent, and they are well finished in every detail.

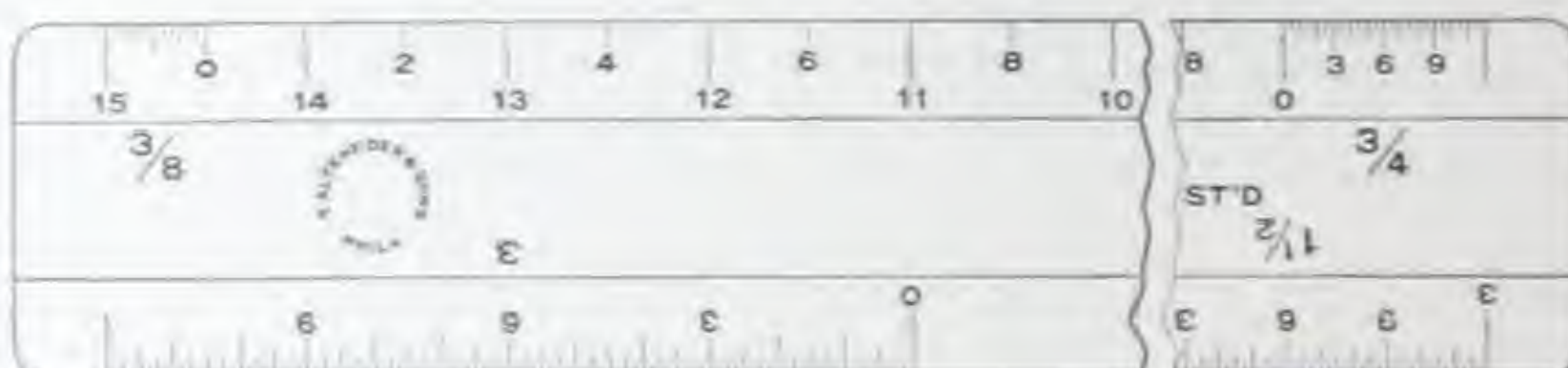
Scales are also furnished in white opaque plastic "Vinylite" which material is inert and will not warp or shrink over a normal temperature range.

FLAT OR OPPOSITE BEVEL

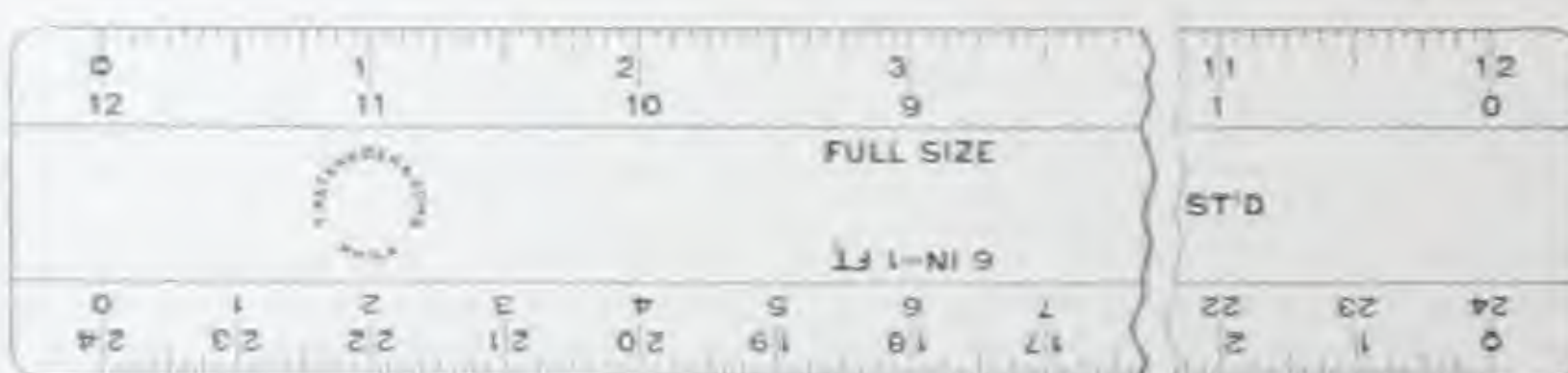
Specify whether Flat or Opposite Bevel Shape is desired



| | Vinylite | EACH | White Edge | EACH |
|--|----------|------|------------|------|
| 6-inch, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, and 1 inch to the foot | 716201 | | 716204 | |
| 12-inch, graduated as above | 716202 | | 716205 | |
| 24-inch, graduated as above | 716203 | | 716206 | |



| | Vinylite | EACH | White Edge | EACH |
|---|----------|------|------------|------|
| 6-inch, $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, and 3 inches to the foot | 716207 | | 716210 | |
| 12-inch, graduated as above | 716208 | | 716211 | |
| 24-inch, graduated as above | 716209 | | 716212 | |



| | Vinylite | EACH | White Edge | EACH |
|--|----------|------|------------|------|
| 6-inch, Full Size to 16ths or 32nds and Half Size to 16ths | 716213 | | 716216 | |
| 12-inch, graduated as above | 716214 | | 716217 | |
| 24-inch, graduated as above | 716215 | | 716218 | |

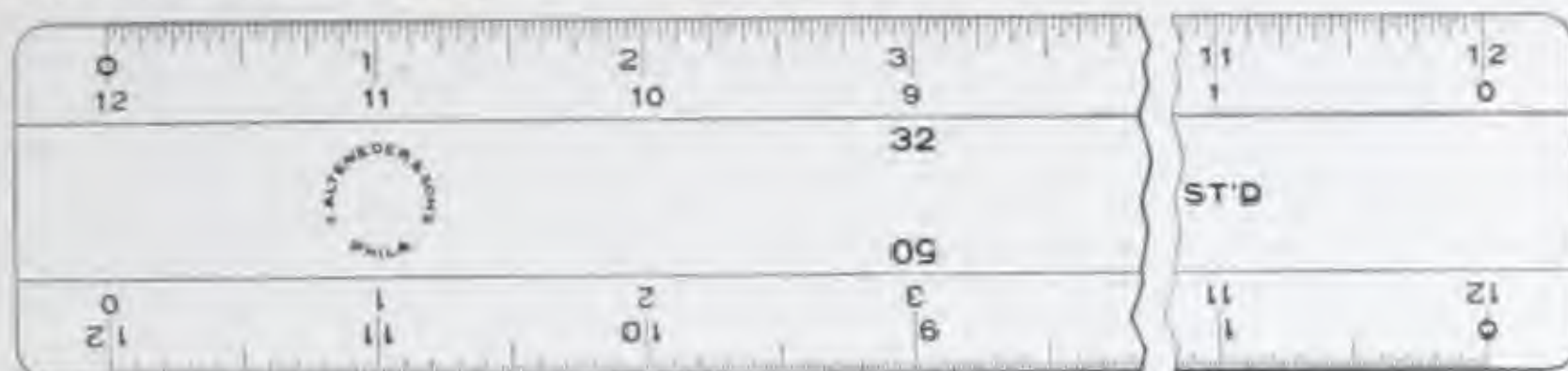
There will be no additional charge for different combinations of above scales where arrangements are standard.

| | | | | |
|---|--------|--|--------|--|
| 12-inch, Quarter and Eighth Size (unless specified otherwise, the Quarter Size will be subdivided to eighths and the Eighth Size to quarters) | 716219 | | 716221 | |
| 12-inch, Full Size to 16ths and Full Size to 32nds | 716220 | | 716222 | |

See Price List Inside Back Cover

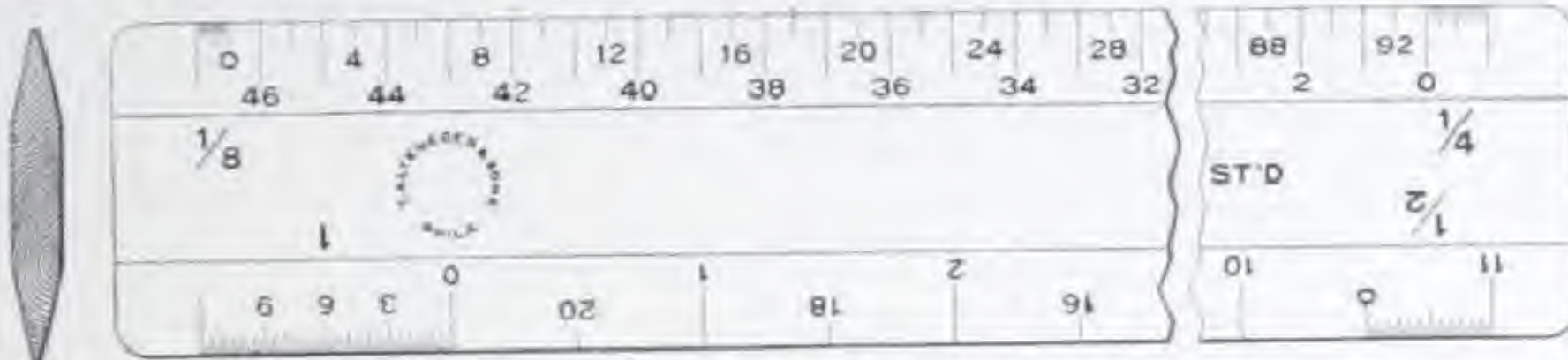
ALTENEDER DRAFTING SCALES

Specify whether Flat or Opposite Bevel Shape is desired



| | Vynlite | EACH | White Edge | EACH |
|-----------------------------------|---------|------|------------|------|
| 6-inch, 32nds and 50ths Full Size | 716301 | | 716303 | |
| 2-inch, 32nds and 50ths Full Size | 716302 | | 716304 | |

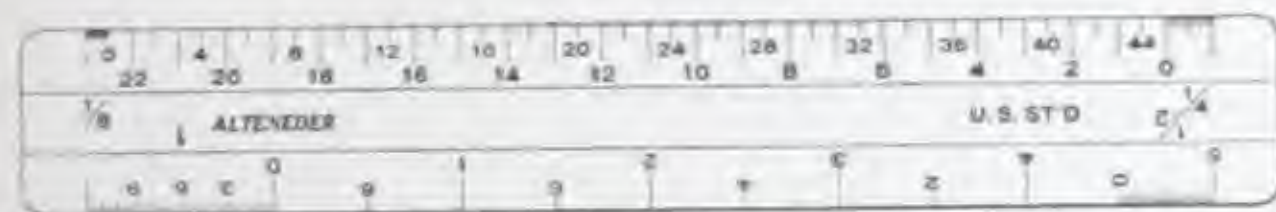
Double
Bevel



| | Vynlite | EACH | White Edge | EACH |
|---|---------|------|------------|------|
| 6-inch, 1/8, 1/4, 1/2, 1, 3/8, 3/4, 1 1/2, and 3 inches to the foot | 716305 | | 716308 | |
| 12-inch | 716306 | | 716309 | |
| 24-inch | 716307 | | 716310 | |

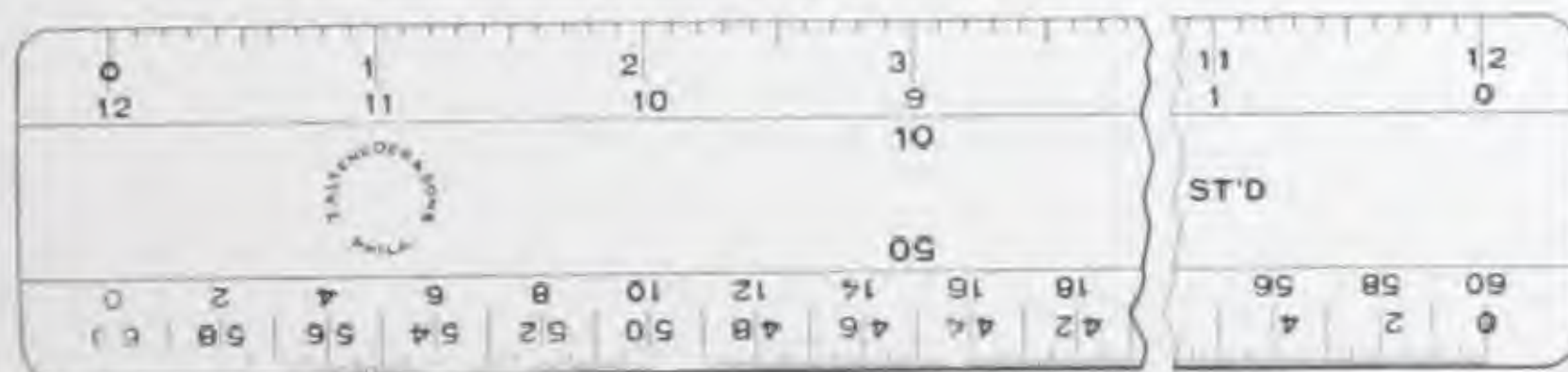
DOUBLE BEVEL POCKET SCALES

These scales are one inch in width and furnished in a leather sheath. The bevels are not veneered but made in one solid piece which permits them to be finished to a fine edge.



| | Vynlite | EACH | White Edge | EACH |
|---|---------|------|------------|------|
| 6-inch, 1/8, 1/4, 1/2, 1, 3/8, 3/4, 1 1/2, and 3 inch to the foot | 716311 | | 716315 | |
| 6-inch, 10, 20, 40 and 50 parts to the inch | 716312 | | 716316 | |
| 6-inch, 10, 30, 40 and 50 parts to the inch | 716313 | | 716317 | |
| 6-inch, 10, 16, 32 to the inch and millimeters | 716314 | | 716318 | |

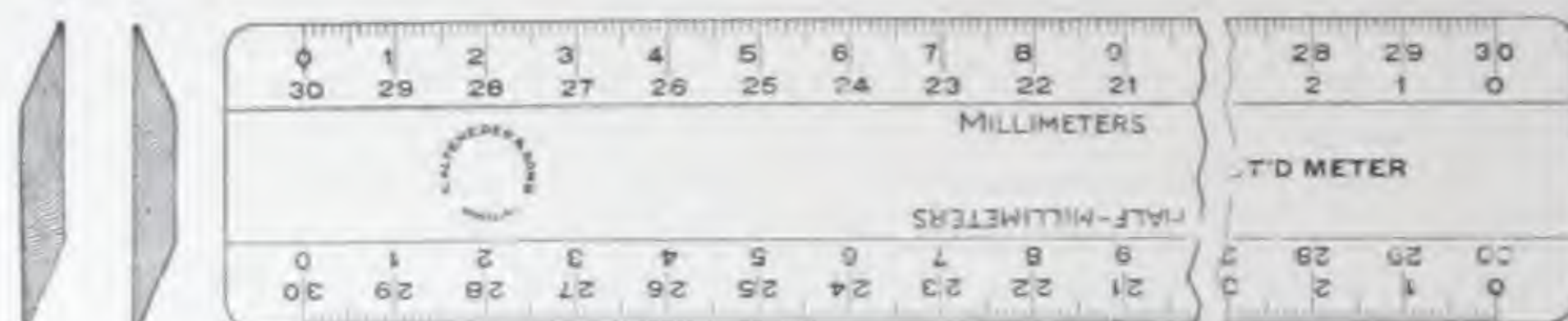
CIVIL ENGINEER'S SCALES



| | Vynlite | EACH | White Edge | EACH |
|-------------------------------|---------|------|------------|------|
| 6-inch, 10 x 50 to the inch | 716319 | | 716327 | |
| 6-inch, 20 x 40 to the inch | 716320 | | 716328 | |
| 6-inch, 30 x 60 to the inch | 716321 | | 716329 | |
| 6-inch, 80 x 100 to the inch | 716322 | | 716330 | |
| 12-inch, 10 x 50 to the inch | 716323 | | 716331 | |
| 12-inch, 20 x 40 to the inch | 716324 | | 716332 | |
| 12-inch, 30 x 60 to the inch | 716325 | | 716333 | |
| 12-inch, 80 x 100 to the inch | 716326 | | 716334 | |

See Price List Inside Back Cover

ALTENEDER DRAFTING SCALES METRIC SCALES

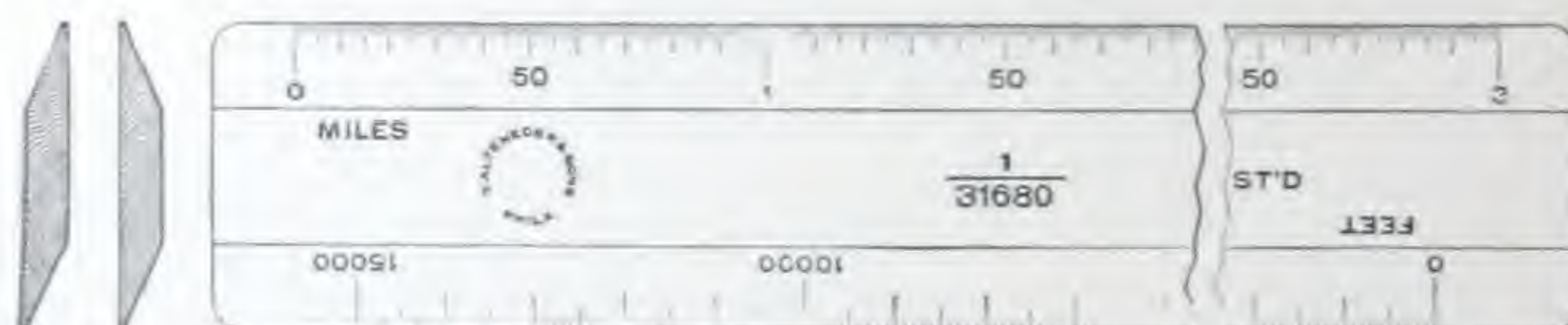


| | Vynlite | EACH | White Edge | EACH |
|--|---------|------|------------|------|
| 20-cm., millimeter and half millimeter | 71641 | | 71644 | |
| 30-cm., millimeter and half millimeter | 71642 | | 71645 | |
| 50-cm., millimeter and half millimeter | 71643 | | 71646 | |

PLOTting SCALES

Furnished in White Edge only

If shape is not specified Flat Scales will be furnished



| | White Edge | EACH |
|--|------------|------|
| 1:31680 (2" = 1 mile) | 71647 | |
| 6.000 inches divided in 300 parts. (Miles.) | | |
| 5.682 inches divided into 150 parts. (Feet.) | | |
| 1:63360 (1 inch = 1 mile) | 71648 | |
| 6.000 inches divided into 600 parts. (Miles.) | | |
| 5.682 inches divided into 300 parts. (Feet.) | | |
| 1:62500 | 71649 | |
| 6.083 inches divided into 600 parts. (Miles.) | | |
| 5.760 inches divided into 300 parts. (Feet.) | | |
| 1:125000—1:62500 | 716410 | |
| 5.069 inches divided into 500 parts. (Miles 1:125000.) | | |
| 5.069 inches divided into 500 parts. (Miles 1:62500.) | | |

NOTE: In these scales the mile side appears in black and the feet side in red.

Prices of other plotting scales will be quoted on receipt of specifications. If arrangements other than those shown on United States Geological Survey Chart are desired, sketch should be furnished showing arrangement of lines and numbering desired.

See Price List Inside Back Cover

MAHOGANY CASES FOR 12" SCALES



EACH

- 71651 Mahogany Case for 4 scales
- 71652 Mahogany Case for 6 scales
- 71653 Mahogany Case for 8 scales
- 71654 Mahogany Case for 10 scales
- 71655 Mahogany Case for 12 scales

SPECIAL SCALES

SKETCH MUST BE FURNISHED

A scale made for the particular work in hand will more than pay for itself by the time saved and convenience it affords. In ordering a special scale the following points should be covered: Shape of scale—flat, opposite bevel, double bevel or pocket size.

Graduated length.

Graduations for each edge.

Arrangement of lines—Open Divided, subdivisions only at end as shown in Figs. 1 and 3; Full Divided, subdivisions carried across entire length of scale as shown in Fig. 2. When "full divided" is specified give measurement of smallest division.

Numbering—Whether the scale is to read left to right only as shown in Fig. 2; right to left only as shown in lower scale of Fig. 3; or from both ends.

FIG. 1

Open divided scale. Two graduations on each bevel. One graduation reading left to right, the other graduation reading right to left.

FIG. 2

Full divided. Different scale on each bevel. Both bevels reading left to right.

FIG. 3

Open divided. Same scale on both bevels. One bevel reading left to right, the other bevel reading right to left.

WHERE A SPECIAL ARRANGEMENT OF LINES AND NUMBERING IS DESIRED FURNISH A SKETCH

Care should be taken in making the sketch, as it is a common error to invert the figures when this arrangement is not desired.

The sketch need not be accurately drawn, but it is essential that the value of the divisions be stated.

See Price List Inside Back Cover

MAP MEASURES



716601



716602

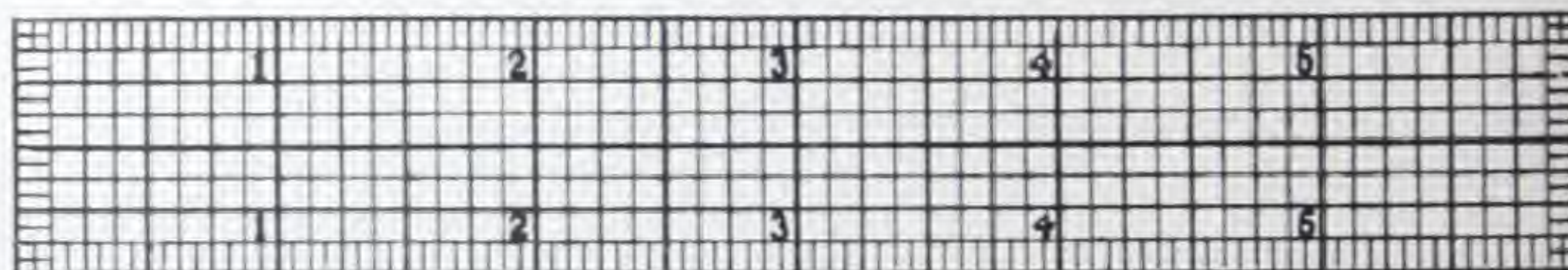


716603

EACH

- 716601 Map Measure, watch pattern, dial with two graduations; 12 inches in eighths and 25 feet divided every foot.....
- 716602 Map Measure, watch pattern, with zero setting attachment, and 100 feet divided every foot.....
- 716603 Map Measure, universal, with handle. The index hand registers inches to miles, or centimeters to kilometers.....

TRANSPARENT FLEXIBLE RULES



EACH

- 716604 Transparent Rule 1 x 6 inches, marked inches.....
- 716605 Transparent Rule 1 x 6 inches, marked tenths and Metric.....
- 716606 Transparent Rule 1 x 12 inches, marked inches.....
- 716607 Transparent Rule 1 x 12 inches, marked tenths and Metric.....
- 716608 Transparent Rule 2 x 12 inches, marked inches.....
- 716609 Transparent Rule 2 x 18 inches, marked inches.....
- 716610 Transparent Rule 2 x 18 inches, marked inches and Metric.....
- 716611 Transparent Rule 2 x 18 inches, marked inches, tenths and Picas.....

HARDWOOD RULERS

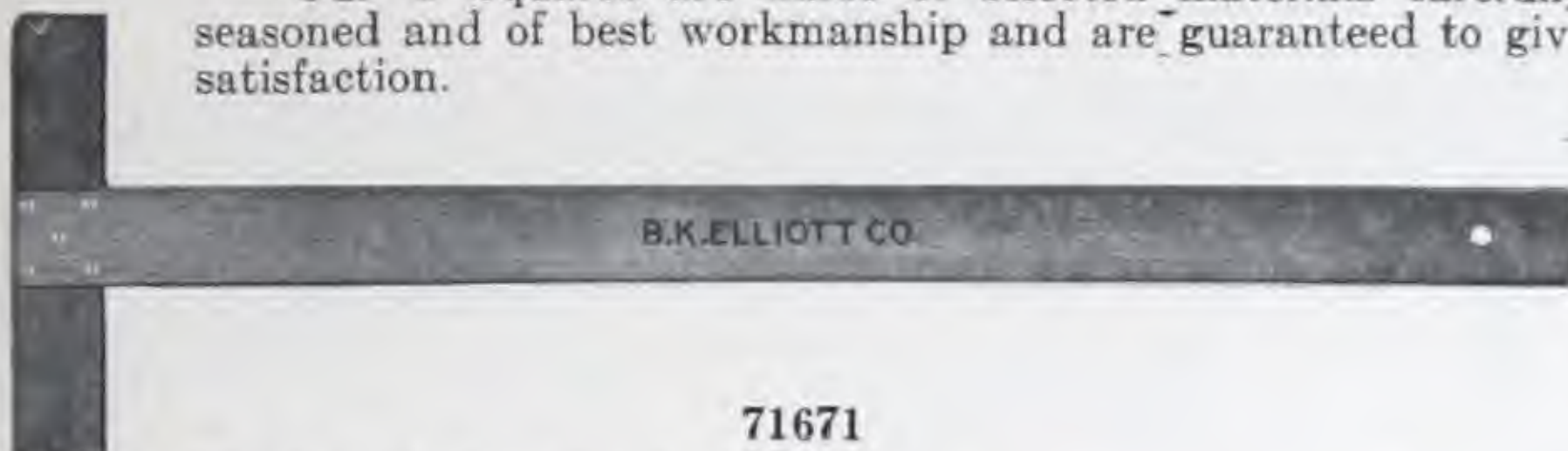
Selected maple finished with three coats of varnish, hand rubbed and polished.
Scaled in sixteenths. $1\frac{5}{16}$ inch wide, $\frac{3}{32}$ inch thick with double steel edge.

- 12 INCH 15 INCH 18 INCH 24 INCH
- 716612 EACH.....

See Price List Inside Back Cover

WOODEN T SQUARES

Our T Squares are made of selected materials carefully seasoned and of best workmanship and are guaranteed to give satisfaction.



71671

71671 Cherry Wood, with fixed head.
 SIZE, INCHES..... 15 18 24 30 36 42 48
 EACH.....



71672

71672 Ash Blade, maple lined, black walnut, fixed head.
 SIZE, INCHES..... 24 30 36 42 48 54 60 72
 EACH.....



71673

71673 Mahogany, ebony lined blade, fixed head.
 SIZE, INCHES..... 24 30 36 42 48 54 60 72
 EACH.....

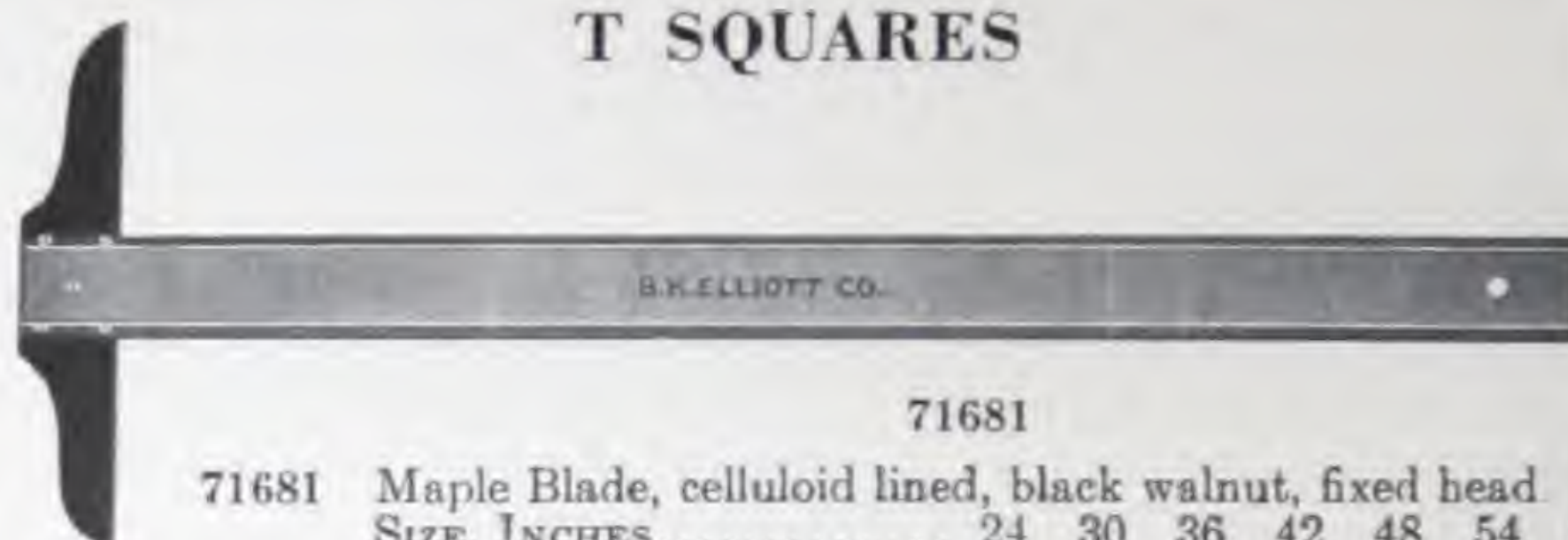


71674

71674 Mahogany, ebony lined, shifting mahogany, double head.
 SIZE, INCHES..... 24 30 36 42 48 54 60
 EACH.....

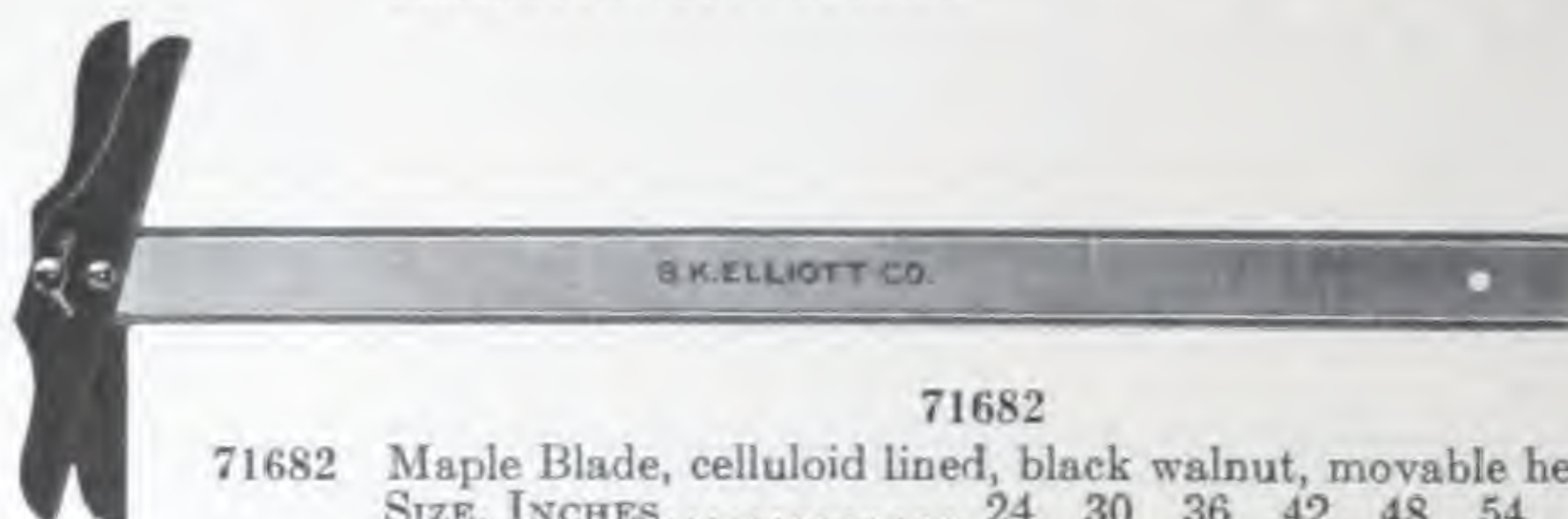
See Price List Inside Back Cover

T SQUARES



71681

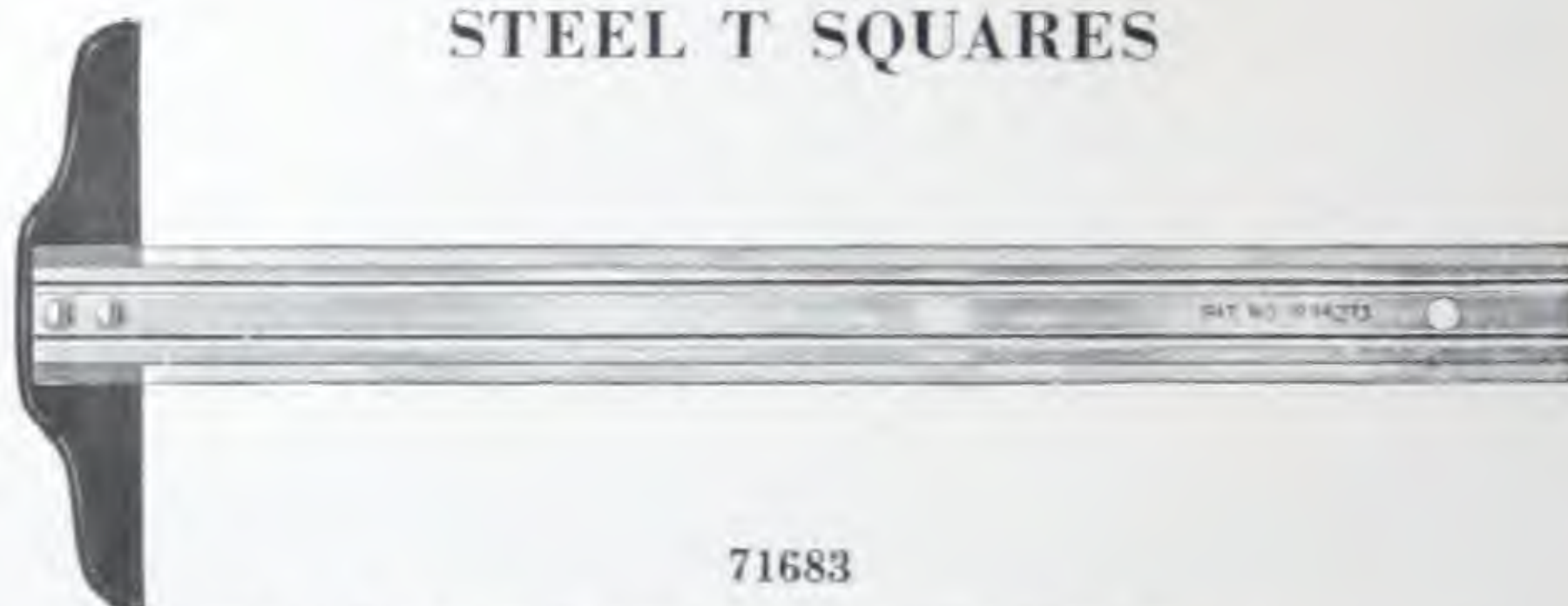
71681 Maple Blade, celluloid lined, black walnut, fixed head.
 SIZE, INCHES..... 24 30 36 42 48 54 60 72
 EACH.....



71682

71682 Maple Blade, celluloid lined, black walnut, movable head.
 SIZE, INCHES..... 24 30 36 42 48 54 60 72
 EACH.....

STEEL T SQUARES



71683

71683 Stainless Steel Blade, with transparent celluloid edges.
 SIZE, INCHES..... 12 15 18 24 30 36 42 48 54 60 72 84 96
 EACH.....

71684 Same as above with one fixed head and one movable head.
 SIZE, INCHES..... 18 24 30 36 42 48 54 60 72
 EACH.....



71685

The heads of these T Squares are made of aluminum, weighing only from 4 to 6 ounces. The heads are 10 inches long. The blades are made of spring-tempered steel, all nicely finished and guaranteed accurate.

71685 Steel T Square, blade 24 x 1 1/4 inches, 3/64 inch thick.....
 71686 Steel T Square, blade 30 x 1 1/4 inches, 3/64 inch thick.....
 71687 Steel T Square, blade 36 x 1 1/4 inches, 3/64 inch thick.....

EACH

See Price List Inside Back Cover

T SQUARES



71691

71691 Tee Square, Fixed Head. Blade and Head of black laminated plastic. Hard drawing edge will withstand abuse. Ideal for school use. 24 inches long. EACH.....



71692

692 Tee Square, Fixed Head. Blade is black laminated plastic, with transparent plastic edges. A rigid, well-constructed tee square. SIZE, INCHES..... 18 24 30 36 42 48 54 60

STRAIGHT EDGES

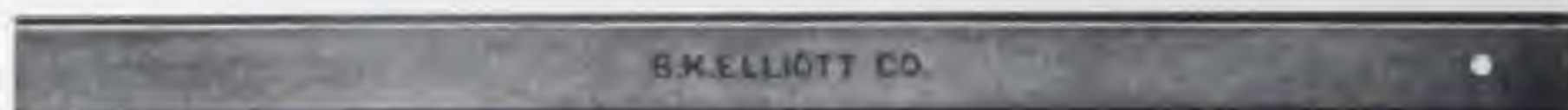


71693

laminated plastic with transparent plastic edges. Easily cloth. 2 18 24 30 36 42 48 54 60

ice List Inside Back Cover

WOOD STRAIGHT EDGES



- 71701 Mahogany, ebony lined, one edge beveled.
 SIZE, INCHES..... 24 30 36 42 48 54
 EACH.....



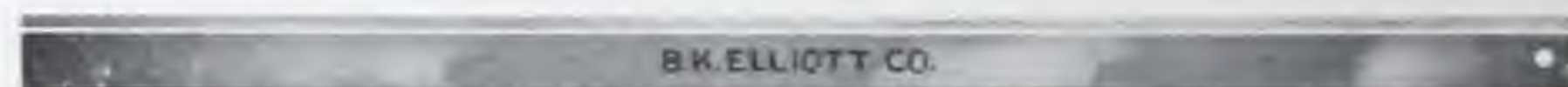
- 71702 Transparent celluloid lined, square edges
 SIZE, INCHES..... 24 30 36 42 48 54 60
 EACH.....

STEEL STRAIGHT EDGES



- 71703 Stainless Steel Blade Transparent Celluloid Edges
 SIZE, INCHES.... 18 24 30 36 42 48 54 60 72 84 96
 EACH.....

(Can be furnished with slots for parallel attachment)



- 71704 Steel Straight edges, nickel-plated, one edge beveled.
 SIZE, INCHES..... 12 24 36 48 60 72
 EACH.....

See Price List Inside Back Cover

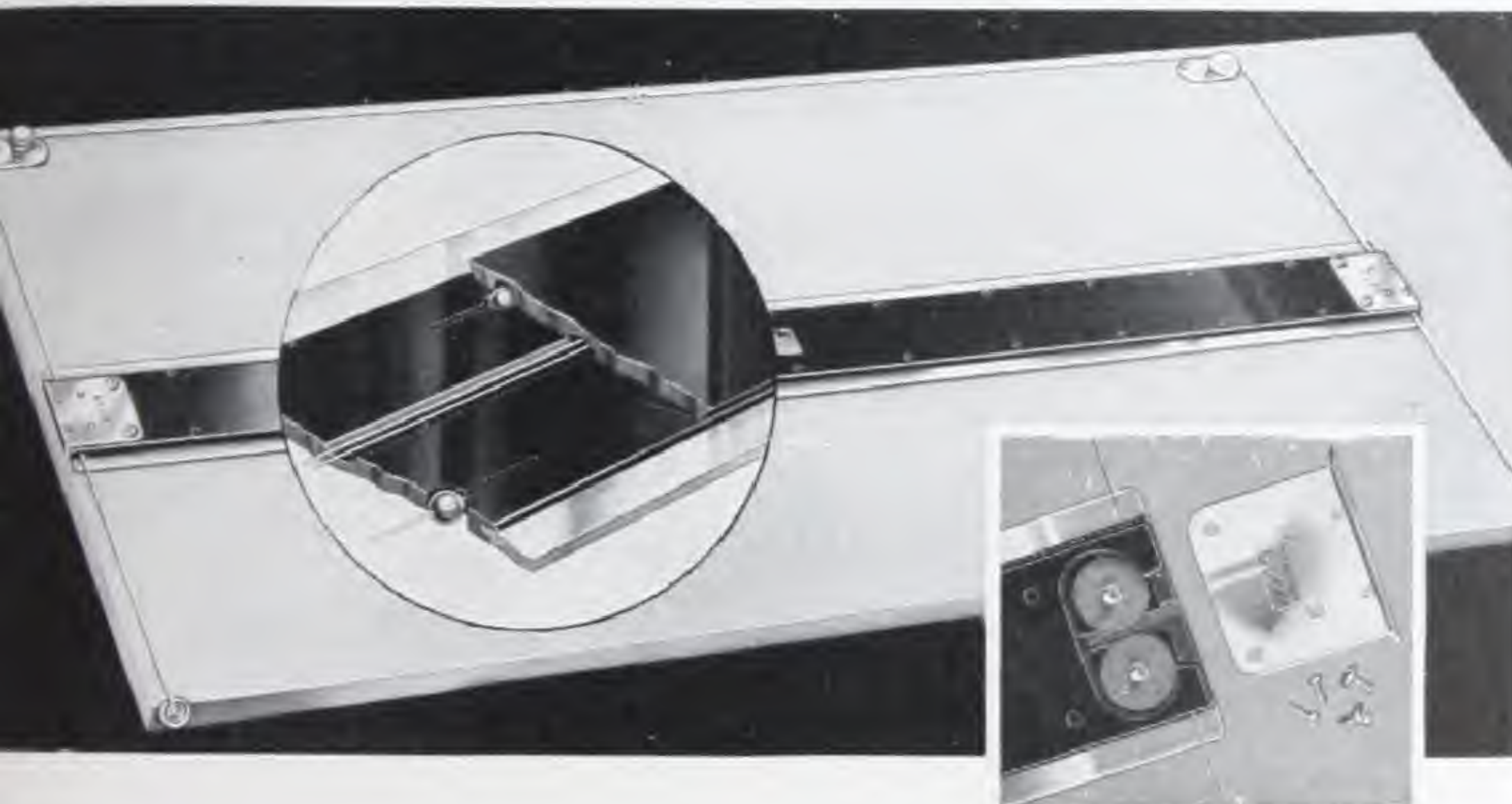
PLASTIC STRAIGHT EDGES

The "Blade-Type" system of straightedge control is rapidly replacing all other types of parallel ruling devices because it is the most accurate and efficient. **Esco** Ideal, Mobile and Standard Straightedges are designed primarily for use with Blade-Type attachments and when thus equipped are designated as "Parallel Ruling Straightedges".

The four operating pulleys of the Blade-type attachment are mounted on or in the blade itself—two at each end. Cable passes through concealed channel in blade. Held at upper corners and lower edge of board with special fittings. All fittings on top of board.

Blade-Type Attachments offer many advantages: (1) Cable operates over four pulleys at 90° turns—total of 360°; (2) Blade can be adjusted to rule parallel lines at angles; (3) No spring to stretch and cause inaccuracies; (4) Straightedge shorter than board can be used, allowing space at end of table for instruments, etc.; (5) No part of straightedge projects over drawing board and ends are free for use on tracings longer than board.

Straightedges listed on this page are furnished fitted with attachments.



71711 Ideal Parallel Ruling Straightedge, same blade construction as **71722** but with "Blade-Type" Ruling Attachments fitted to Blade.

| | | | | | | | | |
|--------------------|----|----|----|----|----|----|----|----|
| SIZE, INCHES | 30 | 36 | 42 | 48 | 54 | 60 | 72 | 84 |
| EACH | | | | | | | | |

71712 Mobile Parallel Ruling Straightedge, same blade construction as **71723**, but with "Blade-Type" Ruling Attachments fitted to Blade.

| | | | | | | | | | | | |
|--------------------|----|----|----|----|----|----|----|----|----|-----|-----|
| SIZE, INCHES | 30 | 36 | 42 | 48 | 54 | 60 | 72 | 84 | 96 | 108 | 120 |
| EACH | | | | | | | | | | | |

Above Straightedges can be equipped with pencil ledge for small additional charge.

See Price List Inside Back Cover



PLASTIC STRAIGHT EDGES

For Under-Board Type Ruling Attachments or Steel-end Tables; the straightedge covering the full length of Table.

Made of laminated Bakelite, impervious to moisture, practically indestructible; easily cleaned with a damp cloth.



Edges are crystal-clear transparent plastic, .090" thick, with $\frac{3}{8}$ " projection, set into blade .010" above bottom to minimize contact with drawing.

End Plates, as illustrated, are nicked, attached firmly to the blade, and equipped with adjustable bar which attaches to cable or cord clamp.



71721 Regal Straightedge, single thickness Bakelite, $\frac{5}{32}$ " thick

| | | | | | | | |
|--------------|----|----|----|----|----|----|----|
| SIZE, INCHES | 30 | 36 | 42 | 48 | 54 | 60 | 72 |
| EACH | | | | | | | |



71722 Ideal Straightedge, single thickness Bakelite, $\frac{5}{32}$ " thick, but with 1-inch wide strip, adding stiffness, and providing grip for lifting or moving.

| | | | | | | | | |
|--------------|----|----|----|----|----|----|----|----|
| SIZE, INCHES | 30 | 36 | 42 | 48 | 54 | 60 | 72 | 84 |
| EACH | | | | | | | | |



71723 Mobile Straightedge, same construction as No. 71712 Mobile Straightedge, with built-in retractile rollers, eliminating smudging and providing smooth, easy operation. (See illustration page 171.)

| | | | | | | | | | | | |
|--------------|----|----|----|----|----|----|----|----|----|-----|-----|
| SIZE, INCHES | 30 | 36 | 42 | 48 | 54 | 60 | 72 | 84 | 96 | 108 | 120 |
| EACH | | | | | | | | | | | |

Above Straight edges can be equipped with pencil ledge for small additional charge.

See Price List Inside Back Cover

PARALLEL RULING ATTACHMENT



BLADE-TYPE

Can be used with Black Plastic Straightedges shown on page 172. This attachment converts straightedge into parallel ruling unit. It is necessary only to insert studs into openings provided on straightedge, attach the four pulleys, and cover with housing. Then screw the mounting fittings to the board.

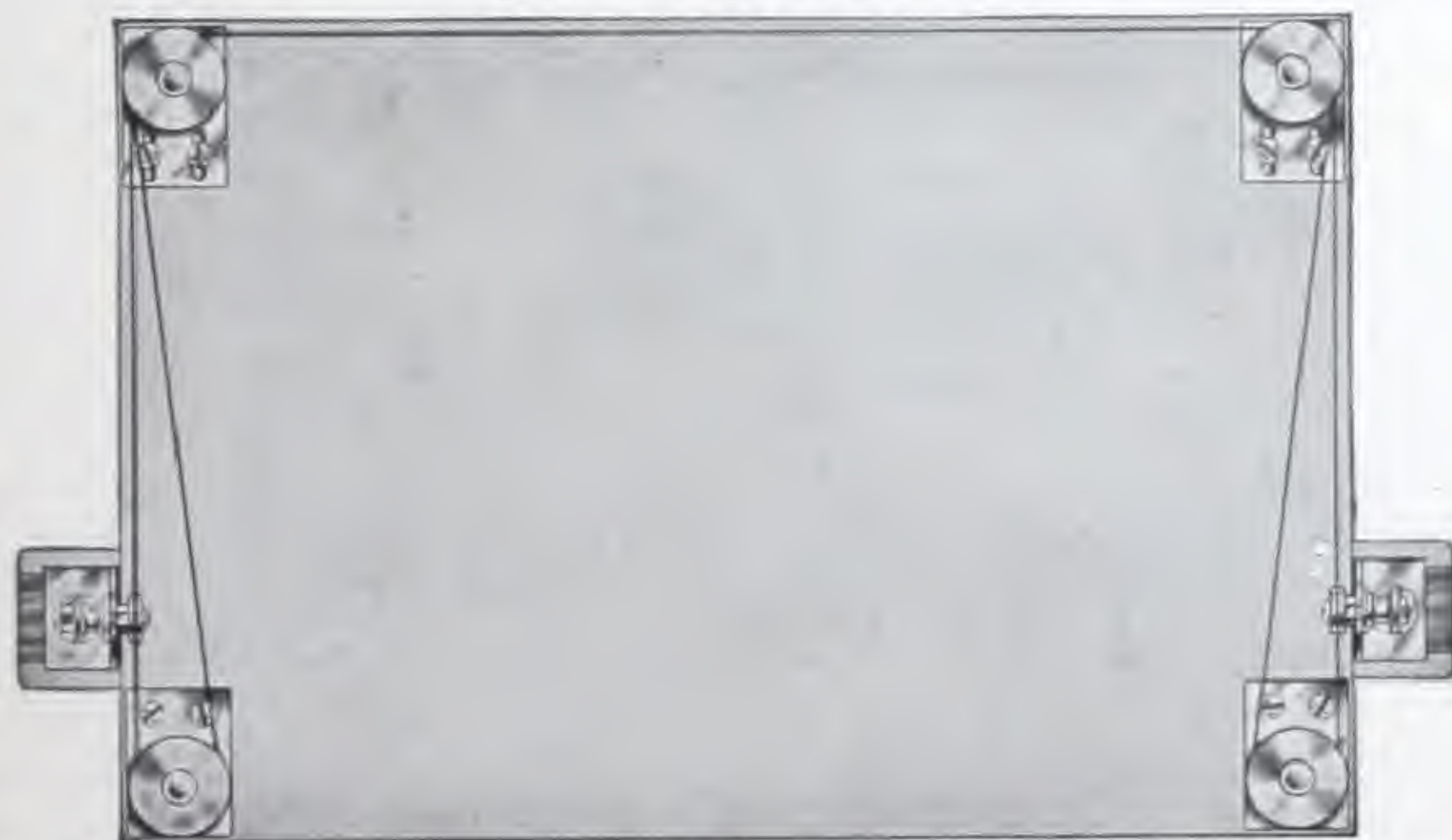
Features of blade-type attachment include: (1) cable operates over 4 pulleys instead of 6 or 8; (2) blade can be lined up with drawing; (3) no unnecessary springs; (4) applicable to straightedges shorter than board; (5) ends of straightedge are free and do not project beyond end of board.

Pulleys have anti-friction bearings, neat, compact. Special 48 strand Metal Braid Cable is standard equipment: furnished complete with 4 pulleys, 4 studs, 2 caps for attaching to blade, and necessary mounting fittings and screws.

NOTE: To be used with our Mobile, Regal, and Ideal Straightedges. Please specify straightedge since there are two attachments, or specify our attachment numbers.

71731 BLADE-TYPE Parallel Ruling Attachment for mounting on straightedges—
 30" to 42" Blades 48" to 72" Blades 84" to 120" Blades

PARALLEL RULING ATTACHMENT UNDER-BOARD-TYPE



Under-Board-Type Parallel Ruling Attachment for use on Tables or Boards with wood end cleats.

The cables cross under the board, and there is a spring to maintain tension. Can be used with any type blade.

EACH

71732 Parallel Ruling Attachment.

71733 Parallel Ruling Attachment for use on Tables or Boards having steel end cleats.

Instructions for mounting furnished with each set of attachments.

See Price List Inside Back Cover

RULING ATTACHMENT CABLE



Monel-Metal Braid Cable is made up of 48 strands of monel-metal wire braided over an oiled cotton core. Outside diameter .037".

EACH

- | | | |
|-------|--|--|
| 71741 | Monel-Metal Braid Cable, 100-foot spools | |
| 71742 | Monel-Metal Braid Cable, 300-foot spools | |
| 71743 | Monel-Metal Braid Cable, 500-foot spools | |
| 71744 | Cloth-covered Copper Cable for older type Ruling Attachments | |
| | PER FOOT | |
| | PER 100 FEET | |

DRAFTSMEN'S DUST BRUSHES



71745

EACH DOZ.

- | | | |
|-------|---|--|
| 71745 | Dust Brush, flat, single row of bristles invisible wire drawn, well made, 8-inch brush with 6-inch handle | |
|-------|---|--|



71746

For the drafting room here is the best brush on the market. Long, pliable bristles, wax-set in a strong light-weight wood handle. Look at the shape and see how this brush gets into corners after dirt. Useful every day and will last for years.

EACH DOZ.

- | | | |
|-------|-------|--|
| 71746 | | |
|-------|-------|--|



71747

EACH DOZ.

- | | | |
|-------|--|--|
| 71747 | Dust Brush, three rows of bristle, set in pitch, 9-inch brush, 6-inch handle | |
|-------|--|--|

See Price List Inside Back Cover

DRAFTSMAN'S ADJUSTABLE LAMP

Most flexible light on the market.

Works like the human arm.

DAZOR FLUORESCENT

110 Volt, 60 Cycle

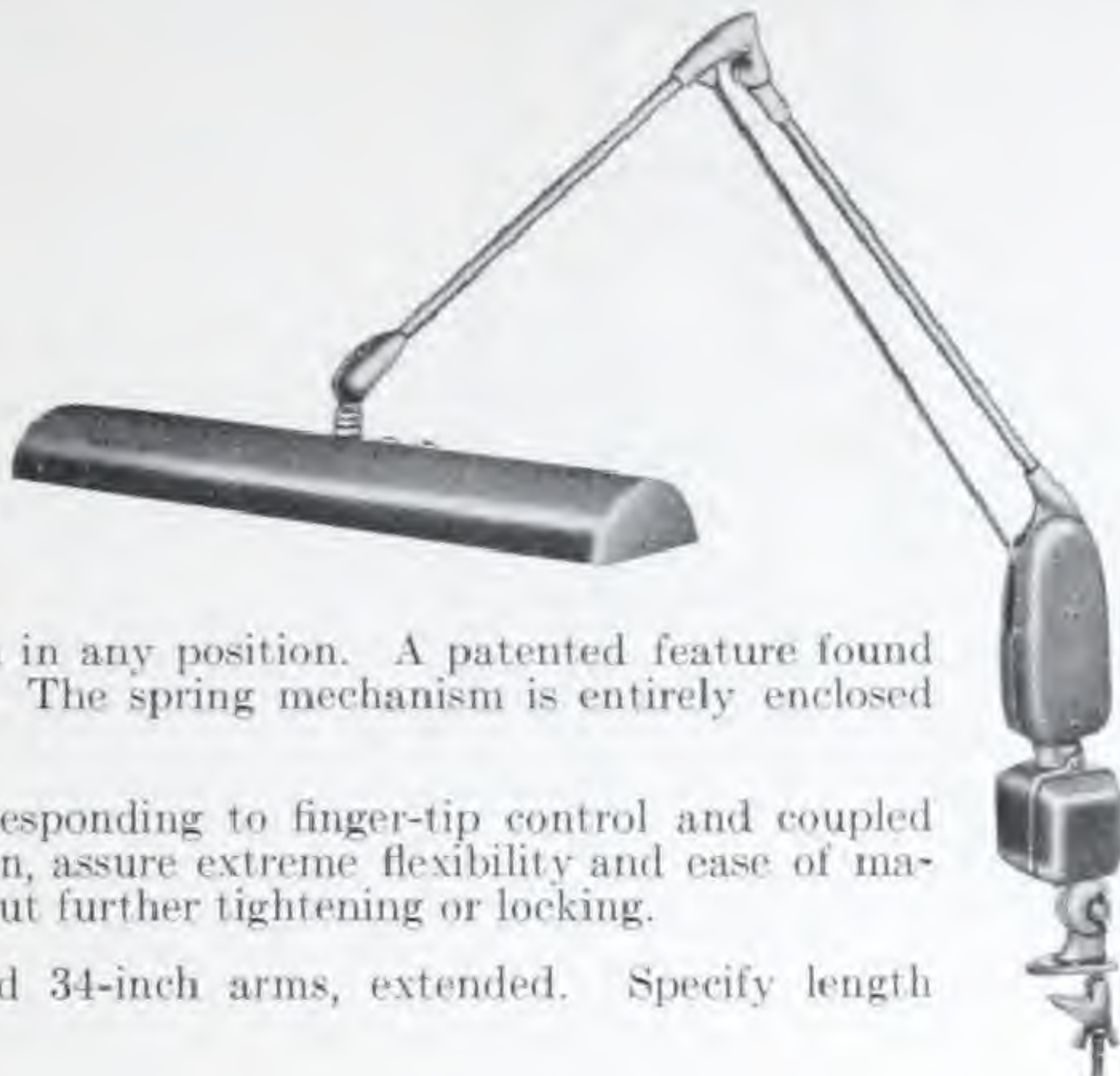
Power Factor 95%

Two 15-watt, 16-inch tubes

Floating Arm: A strong spring force, acting through a shifting fulcrum and parallelogram on both sections of the double-arm, equalizes the varying forces exerted by the arm, thereby balancing the arm in any position. A patented feature found only in **Dazor Floating Lamps**. The spring mechanism is entirely enclosed within a housing near the base.

Six different connections, responding to finger-tip control and coupled with the double-arm construction, assure extreme flexibility and ease of manipulation to any position without further tightening or locking.

Available with 24-inch and 34-inch arms, extended. Specify length desired when ordering.



BRACKET MODEL



Dazor Lamps provide a choice of bases suitable for any desk or drawing table:

Universal Model: can be clamped to any board.

Bracket Model: A goose-neck iron bracket forms the base. Fastened to under side of board by screws, it leaves upper edge of board clear. Will accommodate dust cover.



Table Model: Can be placed where needed on large tables. The weighted base does not require fastening down.

EACH

- 71751 Dazor Lamp, Universal Model
- 71752 Dazor Lamp, Bracket Model
- 71753 Dazor Lamp, Table Model
- 71754 Fluorescent Tubes, 15-watt

See Price List Inside Back Cover



DRAFTSMAN'S STOOLS



71761



71763

EACH

- 71761 Draftsman's Stool, Golden Oak, wood seat, 30 inches high.
71762 Draftsman's Stool, Golden Oak, wood seat, 34 inches high.
71763 Draftsman's Steel Stool, wood seat, rigid construction, 26 inches high.



71764



71765

EACH

- 71764 Draftsman's Steel Stool, 30 inches high, rigid construction, with foot rest, wood seat, 15-inch diameter.
71765 Draftsman's Steel Stool, quick adjustment from 26 to 30 inches, wood seat, 15-inch diameter, foot rest, non-skid ball-and-socket feet.
71766 Draftsman's Steel Stool, same as No. 71765 but adjustable from 30 to 34 inches.

See Price List Inside Back Cover



ELCO HEALTH STOOL

A chair that conforms to the bony structure of the body in a seated position will enforce correct posture. The special shape of the seat relieves the pelvic seat bones by distributing some of the weight of the body on the thighs.

The front of the seat turns down and is rounded to avoid any undue pressure on the blood vessels and nerves under the legs directly under the knee joint.

The back supports the spine in its weakest part just where the support is needed.

Heretofore in nearly all makes of chairs the support of the back was in contact with the body in the region of the shoulder blades. This naturally leaves the weakest part of the back without support, inviting a bent-over posture, constricting the lungs, heart and stomach and other vital organs. Such incorrect posture produces physical fatigue, bodily discomfort, headaches, backaches, nervousness, etc. As a result, personal efficiency is greatly lowered and output much reduced.

These evils are corrected by the use of our Steel Stool Chair. Physical fatigue and muscular strain are eliminated. These chairs provide correct seating, encourage correct posture and allow maximum comfort. You can sit for longer periods in this stool chair without physical discomfort than on any other chair made. This means more and better work from your operatives, more contented employees with less "laying off."

Sturdily built of cold-rolled steel except seat and back support which are wood. Swivel seat has quick height and adjustment of $4\frac{1}{2}$ " in one-inch steps.

Stools have non-skid ball and socket feet.



71771

ELCO HEALTH CHAIR

Same health features and rigid construction as 71771 Health Stool, but equipped with 2-inch casters.

Recommended for use with Auto-Shift Tables

EACH

71771 Elco Health Stool, adjustable from 26 to 30 inches.....

71772 Elco Health Stool, adjustable from 30 to 34 inches.....

71773 Elco Health Chair, adjustable from 17 to $21\frac{1}{2}$ inches.....

71774 Elco Health Chair, adjustable from 19 to $23\frac{1}{2}$ inches.....



71773

See Price List Inside Back Cover



STOOL AND CHAIR CUSHIONS

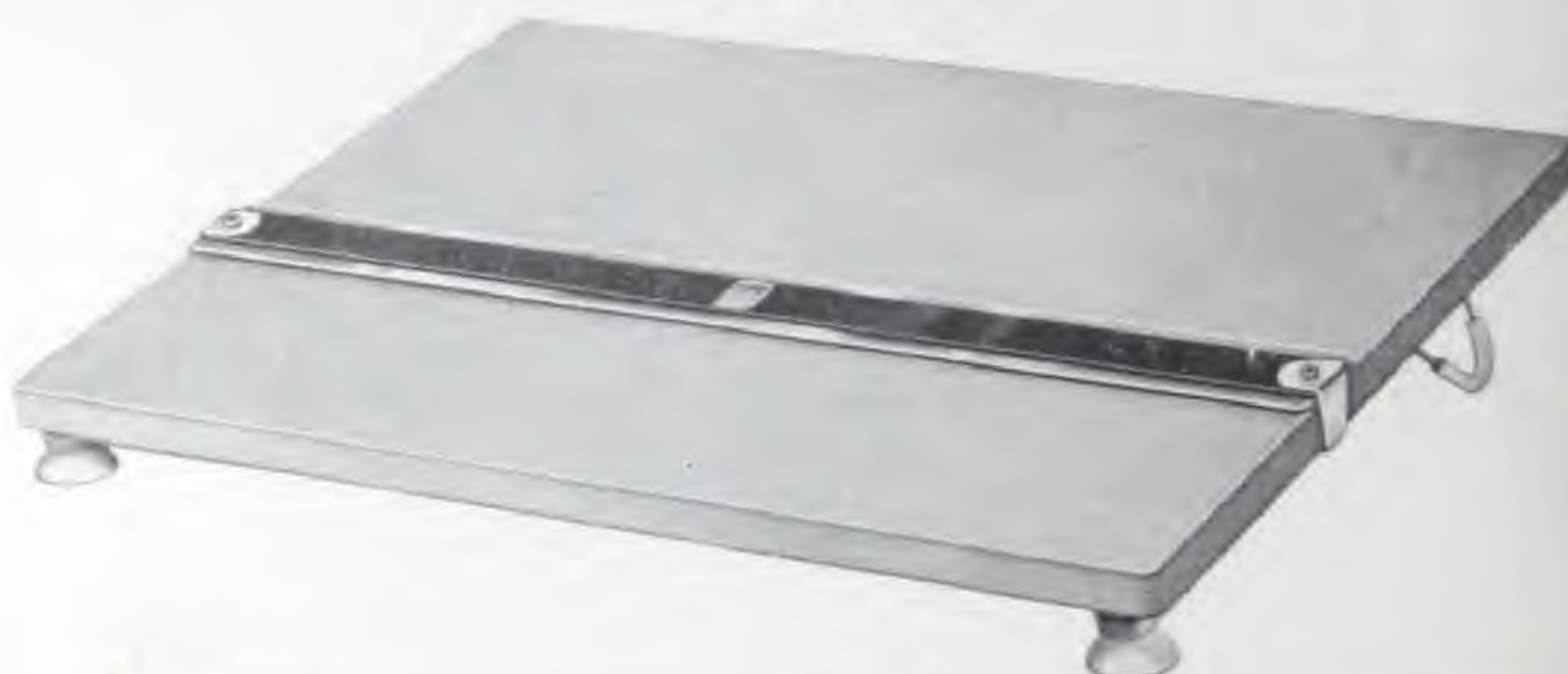
Seat Cushion—for Stools with Round Seats. Very comfortable sponge rubber, felt-covered, and moulded to fit seat.

71781 Stool Cushion EACH: 13" 14" 15"

Seat Cushion—for Stools with Chair seats. Kapok filled, Leatherette-covered top and sides, with ribbed cloth bottom. Size 15" x 13½" x 1½".

71782 Chair Cushion EACH

DRAWING KIT



Drawing Kit, professional quality. Drawing Board of five-ply basswood, smoothly sanded, corners rounded. Rubber suction feet.

Parallel Ruling Straightedge of black laminated Bakelite, transparent edges, with attachments on under side of board.

| | | |
|--------------------|------|----------|
| 71783 Drawing Kit: | EACH | EACH |
| 12 x 14" | | 24 x 30" |
| 15 x 20" | | 24 x 36" |
| 21 x 26" | | 30 x 42" |



CARRYING CASE

Carrying case of hard fibre construction, covered with black leatherette, made especially for use with 71783 Drawing Kits.

Pocket in lid for papers, triangles, etc.

71784 Carrying Case: EACH

| | |
|--------------|--|
| For 12 x 14" | |
| For 15 x 20" | |
| For 21 x 26" | |

See Price List Inside Back Cover



NEW TRENDS IN DRAFTING ROOM FURNITURE

Streamlining is here to stay, and drafting room procedure has kept pace with these changes placing emphasis on simplicity and utility. New labor-saving devices are in use for producing drawings. More efficiency is demanded of the draftsman and more production is demanded of the department; better methods of reproduction are in use . . . better methods of filing have come into being.

To supply the needs of the modern drafting room, the B. K. Elliott Company presents in the next 37 pages the complete Hamilton line of drawing tables and filing equipment.

The Hamilton Manufacturing Company, makers of Hamilton Drafting Room Furniture, was the first company to bring orderly progress to drafting room filing and equipment problems. It has effectively standardized drafting room files in accordance with paper standards and practical requirements. Its careful study of the needs of the modern draftsman has resulted in many significant contributions, such as the Wood and Steel Tables, the Auto-Shift Table, the Hamilton Shallow Drawer Tracing File, and the Unit Filing System.

In the Hamilton Line we offer you a complete range of drawing tables. There are Pedestal Type Tables for artists, Boards and Horses for temporary work, sturdy, well-built Wood Tables in a wide range of sizes and styles, Steel-Wood Tables, and Auto-Shift Tables. There is a table to meet every need.

For filing blue prints and tracings the Hamilton Unit Plan File System is recommended. In this system provision is made for filing tracings horizontally, vertically or in rolls. Special equipment designed to minimize wear and tear on tracings and to prolong their life is available for filing active or frequently used tracings. Deep Drawer Units are provided for storing inactive drawings. With this selection to choose from, you can solve any filing problem. By selecting the proper units you can provide for anywhere from one thousand to five hundred thousand drawings. The various units are uniform in size and interlock to form a complete system. The B. K. Elliott Company offers the Hamilton Line with confidence in its quality and assurance that it is the most complete and efficient system of drafting room furniture on the market today.

We endeavor to carry a stock of Hamilton Furniture in Cleveland, Detroit and Pittsburgh for immediate shipment. Specially designed goods, however, are shipped direct from the Hamilton Factory at Two Rivers, Wisconsin.



DRAWING BOARDS

Two Drawing Surfaces, $\frac{3}{4}$ -inch Boards with Cleated Ends

These drawing boards are made in sizes suitable for schools as well as for professional use. They are made of $\frac{3}{4}$ -inch stock and are tongued and grooved as the illustrations show, and with end cleats to strengthen the board. All of the boards are made with a tongue and groove construction.



71801

The board illustrated above is made in the sizes listed below.

| | EACH | | EACH |
|-------|----------------------|-------|--------------------------|
| 71801 | Drawing Boards: | 71802 | Drawing Boards: |
| | 16" x 21", Pine..... | | 16" x 21", Basswood..... |
| | 18" x 24", Pine..... | | 18" x 24", Basswood..... |
| | 20" x 24", Pine..... | | 20" x 24", Basswood..... |
| | 20" x 26", Pine..... | | 20" x 26", Basswood..... |
| | 23" x 31", Pine..... | | 23" x 31", Basswood..... |
| | 24" x 36", Pine..... | | 24" x 36", Basswood..... |
| | 31" x 42", Pine..... | | 31" x 42", Basswood..... |

STEEL-EDGE DRAWING BOARD

A new idea in drawing boards . . . steel ends to insure accuracy, smoothness, and permanently true edges. The steel end cleats, set into the ends of the Steel-Edge Boards, are made of 18-gauge steel. They are lead-coated to give a smooth, bright finish. Since steel is stronger than wood, these cleats insure greater strength and accuracy than was ever possible with wood cleats. They are the most notable advance in small drawing board construction in years. Made in pine with two drawing surfaces (front and back).



71803

| | | | |
|-------|----------------------------|------|----------------------|
| 71803 | Steel-Edge Drawing Boards: | | |
| | | EACH | EACH |
| | 12 x 17 inches | | 23 x 31 inches |
| | 16 x 21 inches | | 24 x 36 inches |
| | 18 x 24 inches | | 31 x 42 inches |
| | 20 x 26 inches | | |

See Price List Inside Back Cover

DRAWING BOARDS



$1\frac{1}{16}$ " boards with 3" x $1\frac{1}{4}$ " maple cleats and oblong washers, staggered.

Drawing Boards made of specially selected Pine or Basswood lumber, aged and kiln dried. With two hardwood bottom cleats.

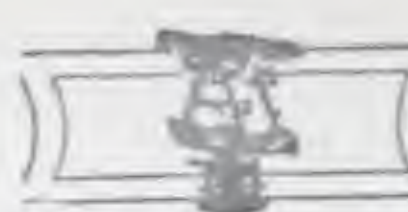
| | SIZE | EACH | SIZE | EACH |
|-------|-----------------------|------|-----------------------|------|
| 71811 | $37\frac{1}{2}$ x 48" | | $43\frac{1}{2}$ x 60" | |
| | $37\frac{1}{2}$ x 54" | | $43\frac{1}{2}$ x 72" | |
| | $37\frac{1}{2}$ x 60" | | 48 x 72" | |
| | $37\frac{1}{2}$ x 72" | | | |



Drawing Boards of finest Pine or Basswood, seasoned and kilndried. With three bottom cleats. Cross-section shows how cleats are fastened to board with heavy screws and oblong washers to allow for expansion and contraction. Notice, also, tongue and groove construction.

| | SIZE | EACH |
|-------|---|------|
| 71812 | Drawing Board, $43\frac{1}{2}$ x 84 x $1\frac{1}{16}$ " | |
| | 48 x 84 x $1\frac{1}{16}$ " | |
| | 48 x 96 x $1\frac{1}{16}$ " | |
| | $43\frac{1}{2}$ x 96 x $1\frac{1}{16}$ " | |
| | 48 x 120 x $1\frac{5}{8}$ " | |

See Price List Inside Back Cover



TRESTLES FOR DRAWING BOARDS



For temporary work—can be stored when not in use. Strong and sturdy. Hardwood—natural Finish.

PER PAIR

71821 Trestles, 38 inches long, 36 $\frac{1}{8}$ inches high

71822 Trestles, 38 inches long, minimum level height 37 inches, maximum level height 47 $\frac{1}{8}$ inches



620606

CHAMPION

These tables are very popular with draftsmen in general and are in use in many art studios because of their adaptability to almost any height or position. The top can be raised or lowered from 32 to 42 inches. It can also be tilted to any angle and nearly vertically for use as an easel. After the table is adjusted, for height or slant, the hand-wheel at top and the star-wheel below, are tightened which makes the table extremely rigid due to the rods which run through the table. When tightened, the hand-wheels draw the table up very tightly.

EACH

| | | | | |
|-------|-------|------------------------------|-------------------|-------|
| 71823 | (110) | 31 x 42 x 1 $\frac{1}{16}$ " | height 32" to 42" | ..... |
| 71824 | (111) | 36 x 48 x 1 $\frac{1}{16}$ " | height 32" to 42" | ..... |
| 71825 | (112) | 36 x 60 x 1 $\frac{1}{16}$ " | height 32" to 42" | ..... |
| 71826 | (113) | 42 x 72 x 1 $\frac{1}{16}$ " | height 32" to 42" | ..... |
| 71827 | (114) | 42 x 84 x 1 $\frac{1}{16}$ " | height 32" to 42" | ..... |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON-HOFFMAN DRAWING STANDS AND ATTACHMENTS

The Hoffman Stands are made in 2 models . . . the No. 71831 Peerless Stand, a substantial, high quality, medium priced, artist's stand and the No. 71832 Sterling Stand, a lighter model, similar in design, lower in price but a first class stand in every respect.

Standard equipment on both include the Universal Swivel Head, which allows the board (board is extra, price depends on size selected) to be tilted to any angle and revolved to any position.

Either of these stands can be equipped with a variety of accessories, such as the combination drawer and tray, as shown on the No. 71831 Peerless Stand, or the tray only, as shown on the No. 71832 Sterling Stand as extras.



71831

The size of boards used is optional and is extra. For cost see No. 71801 Board for selection Page No. 180.

No. 71833 Attachable Universal Adjustable Drawing Board Bracket.

This bracket permits the artist to place his drawing board on the edge of any table that is 2" or less in thickness. Used with Universal Swivel Head, it allows a range of 17" in height . . . that is, it can be raised 17" higher than its minimum height, which, of course, would be approximately the height of the table to which it is attached.



71833



71832

EACH

| | |
|--------------|---|
| 71831 (430) | Peerless Stand with Universal Swivel Head only..... |
| 71832 (432) | Sterling Stand with Universal Swivel Head only..... |
| 71833 (434) | Attachable Bracket with Universal Swivel Head only..... |
| 71834 (436B) | Varnished Oak Drawer and Tray..... |
| 71835 (436C) | 9" x 13" Varnished Oak Tray..... |
| 71836 (436K) | Bracket Clamp only..... |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover



HAMILTON DRAWING TABLES

IDEAL



718401

The Hamilton Ideal is one of our largest selling tables, because its quality construction makes it an exceptional value at a moderate price.

Height adjustment 32" to 42" . . . controlled by single large winged hand nut in base. Top may be tilted from horizontal to vertical by adjustment of one hand wheel. Top has adjustable front ledge for use when board is vertical.

Top is of selected soft wood with hardwood cleats underneath. Finished on both sides with top side sanded smooth. Base is hardwood, in light golden oak finish. Metal parts are black enameled. Shipped knocked down.

EACH

| | | | | |
|--------|---------|--|-------|--|
| 718401 | (157) | Ideal Drawing Table, size 24 | x 32" | |
| 718402 | (158) | Ideal Drawing Table, size 31 | x 42" | |
| 718403 | (159) | Ideal Drawing Table, size 37 $\frac{1}{2}$ | x 48" | |
| 718404 | (159-A) | Ideal Drawing Table, size 37 $\frac{1}{2}$ | x 54" | |
| 718405 | (160) | Ideal Drawing Table, size 37 $\frac{1}{2}$ | x 60" | |
| 718406 | (160-A) | Ideal Drawing Table, size 43 $\frac{1}{2}$ | x 72" | |
| 718407 | (160-B) | Ideal Drawing Table, size 43 $\frac{1}{2}$ | x 84" | |

MONARCH

Monarch tables are low in cost . . . high in quality.

This top is made of 1 $\frac{1}{8}$ " clear selected basswood, kiln-dried, thoroughly seasoned, scientifically treated. Hardwood end cleats attached with heavy screws and oblong washers to allow for expansion and contraction of drawing surface.

Slope of top is adjustable with simple positive raising devices. Table is 37" high.

Blueprint and reference compartment beneath top.

Tool drawer divided into convenient compartment and has sliding tool tray.

Full width hardwood apron at front edge mounted to allow $\frac{5}{16}$ " space for handling long tracings.

Finished in light golden oak.



718408

EACH

| | | | | |
|--------|-------|--|-------|--|
| 718408 | (166) | Monarch Drawing Table, size 37 $\frac{1}{2}$ | x 48" | |
| 718409 | (167) | Monarch Drawing Table, size 37 $\frac{1}{2}$ | x 54" | |
| 718410 | (168) | Monarch Drawing Table, size 37 $\frac{1}{2}$ | x 60" | |
| 718411 | (169) | Monarch Drawing Table, size 37 $\frac{1}{2}$ | x 72" | |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover



HAMILTON DRAWING TABLES

You get more for your money with Hamilton 4-Post Tables because they are efficient, rigid, vibrationless, convenient, comfortable, and accurate. The seasoned, selected wood tops are smooth, level, and square. Zinc-plated steel end cleats hold them true. All corners are rounded for better appearance. The easy-running drawers have non-warping Welded Fibre Board drawer bottoms. A Welded Fibre panel covers the base of adjustable top tables to keep dust out of drawers. Standard height is 37". All tool drawers have locks. Body of table is finished light golden oak. Drawing board has one coat of specially thinned varnish and top side is sanded smooth. Tables shipped knocked down. Extremely rigid after assembling, with all bolts tightened.



POSITIVE RAISING DEVICE

Each adjustable Hamilton 4-Post Table has two of these simple, positive raising devices. They are easy to operate . . . positive and dependable. Made of steel, black enameled. Illustration also shows Composition Board table cover to keep dust out of drawers.

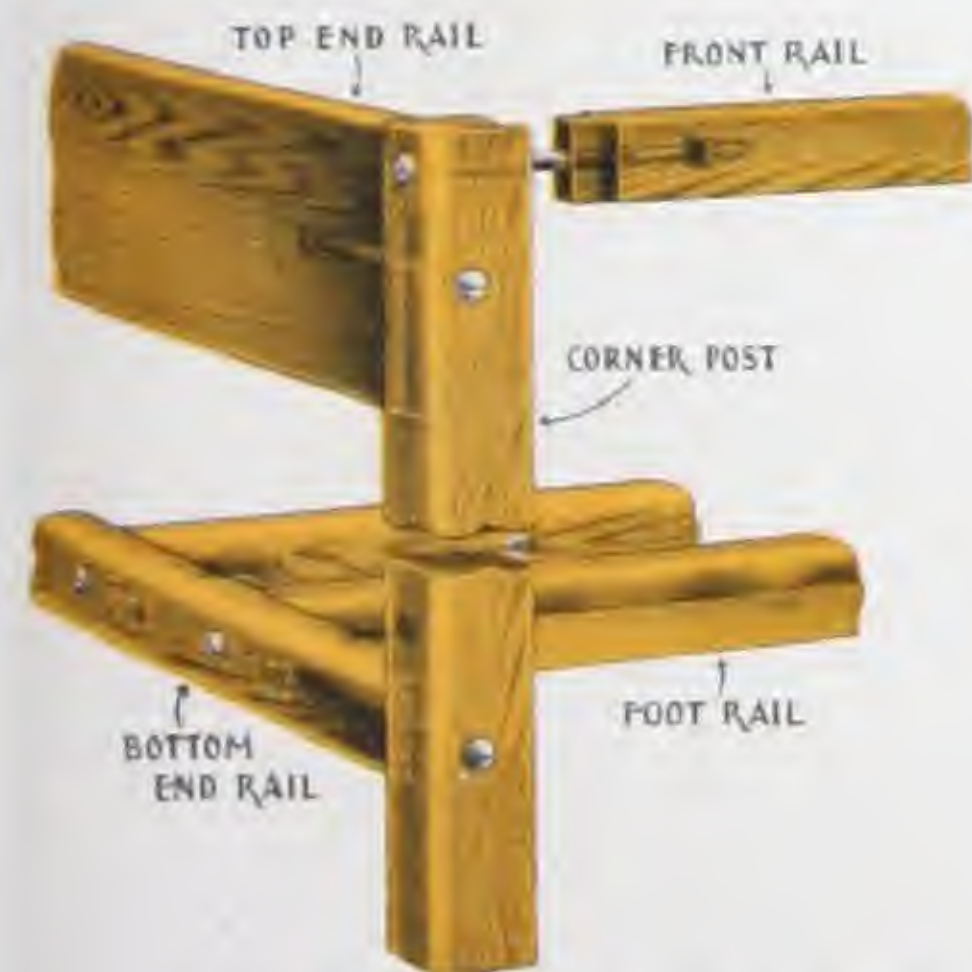


Illustration shows the strong bolted knocked-down construction of 4-Post Drawing Tables.

The ends are mortised and tenoned and bolted together at the factory. As the tables are shipped knocked-down, the front and back rails, and foot rails are inserted in the mortises in the ends when assembling the table. The bolts are then inserted and drawn up tight.

This makes a very rigid drawing table. Full instructions are furnished with every table for setting up.

Note that corner of table top and legs are rounded. Brass angle on foot rail to prevent wear.

Construction of Drawing Board Tops on all 4-Post Drawing Tables

The tops are equipped with zinc plated metal end cleats grooved into top of board and fastened at bottom with screws through oblong slots. There is also an oak apron on front of board. Board is of selected California sugar pine, with tongue and groove construction, varnished all over, top side sanded smooth.





HAMILTON DRAWING TABLES



718610

EACH

| | | | |
|--------|--------|---|-------|
| 718601 | (255A) | 37½ x 60, solid top, no drawer | ..... |
| 718602 | (225) | 37½ x 72, solid top, no drawer | ..... |
| 718603 | (240) | 43½ x 84, solid top, no drawer | ..... |
| 718604 | (256) | 37½ x 60, solid top, one tool drawer, 10½ x 26¼ x 3¾ | ..... |
| 718605 | (226) | 37½ x 72, solid top, one tool drawer, 10½ x 26¼ x 3¾ | ..... |
| 718606 | (240A) | 43½ x 84, solid top, one tool drawer, 10½ x 26¼ x 3¾ | ..... |
| 718607 | (250A) | 37½ x 60, adjustable top, no drawer | ..... |
| 718608 | (220) | 37½ x 72, adjustable top, no drawer | ..... |
| 718609 | (230) | 43½ x 84, adjustable top, no drawer | ..... |
| 718610 | (251) | 37½ x 60, adjustable top, one tool drawer, 10½ x 26¼ x 3¾ | ..... |
| 718611 | (221) | 37½ x 72, adjustable top, one tool drawer, 10½ x 26¼ x 3¾ | ..... |
| 718612 | (230A) | 43½ x 84, adjustable top, one tool drawer, 10½ x 26¼ x 3¾ | ..... |



718616

EACH

| | | | |
|--------|--------|---|-------|
| 718613 | (255) | 37½ x 60", Solid Top, tool drawer 10½ x 26¼ x 3¾", shallow drawer 36½ x 26¼ x 2" inside | ..... |
| 718614 | (226A) | 37½ x 72", Solid Top, tool drawer 10½ x 26¼ x 3¾", shallow drawer 48 7/8 x 25 x 2" inside | ..... |
| 718615 | (241) | 43½ x 84", Solid Top, tool drawer 10½ x 26¼ x 3¾", shallow drawer 59 1/2 x 32 x 2" inside | ..... |
| 718616 | (250) | 37½ x 60", Adjustable Top, tool drawer 10½ x 26¼ x 3¾", shallow drawer 36½ x 26¼ x 2" inside | ..... |
| 718617 | (221A) | 37½ x 72" Adjustable Top, tool drawer 10½ x 26¼ x 3¾", shallow drawer 48 7/8 x 25 x 2" inside | ..... |
| 718618 | (231) | 43½ x 84" Adjustable Top, tool drawer 10½ x 26¼ x 3¾", shallow drawer 59 1/2 x 32 x 2" inside | ..... |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON DRAWING TABLES

4-Post Table With
One Tool Drawer
(Including lock,
two keys, and tray)
and one Shallow
Drawer and 2-
Drawer Unit No.
189.



718702

NOTE—Parallel Ruling Attachment, shown on table, can be furnished on all tables extra.

| | | | EACH |
|--------|---------|---|------|
| 718701 | (255D) | 37½ x 60", Solid Top, tool drawer 10½ x 26¼ x 3¼", Shallow drawer 36½ x 26¼ x 2", Supply drawer 10½ x 25 x 3½", File drawer 9½ x 25 x 1½" inside..... | |
| 718702 | (250D) | 37½ x 60", Adjustable Top, drawers same as 718701..... | |
| 718703 | (221AD) | 37½ x 72", Solid Top, same drawers as 718701 except shallow drawer 48½ x 25 x 2" inside..... | |
| 718704 | (226AD) | 37½ x 72", Adjustable Top, drawers same as 718703..... | |
| 718705 | (231D) | 43½ x 84", Solid Top, same drawers as 718701 except shallow drawer 59½ x 32 x 2" inside..... | |
| 718706 | (241D) | 43½ x 84", Adjustable Top, same drawers as 718705..... | |



718708

4-Post Table with two Tool Drawers

— interchangeable
(one including lock,
two keys, and tray)
and one Shallow
Drawer.

| | | | EACH |
|--------|-------|--|------|
| 718707 | (227) | 37½ x 72", Solid Top, tool drawers 17½ x 25 x 3½", shallow drawers 37½ x 25 x 2" inside..... | |
| 718708 | (222) | 37½ x 72", Adjustable Top, otherwise same as 718707..... | |
| 718709 | (245) | 43½ x 84", Solid Top, drawers same as 718707..... | |
| 718710 | (235) | 43½ x 84", Adjustable Top, otherwise same as 718707..... | |
| 718711 | (242) | 43½ x 84", Solid Top, tool drawers 20 x 32 x 3½", shallow drawer 42½ x 32 x 2" inside..... | |
| 718712 | (232) | 43½ x 84", Adjustable Top, otherwise same as 718711..... | |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover



HAMILTON DRAWING TABLES



718802

**4-Post Table with
two Tool Drawers**

— interchangeable
(one including lock,
two keys, and tray)
and three Shallow
Drawers.

EACH

| | | | |
|--------|-------|-----------|---|
| 718801 | (228) | 37½ x 72" | solid top, tool drawer 17½ x 25 x 3½", shallow drawers 37½ x 25 x 2" inside |
| 718802 | (223) | 37½ x 72" | adjustable top, otherwise same as 718801 |
| 718803 | (246) | 43½ x 84" | solid top, drawer sizes same as 718801 |
| 718804 | (230) | 43½ x 84" | adjustable top, otherwise same as 718801 |
| 718805 | (243) | 43½ x 84" | solid top, tool drawers 20 x 32 x 3½", shallow drawers 42½ x 32 x 2" inside |
| 718806 | (233) | 43½ x 84" | adjustable top, otherwise same as 718805 |

**4-Post Table with
two Tool Drawers**

— interchangeable
(one including lock,
two keys, and tray)
and six Shallow
Drawers.



718808

EACH

| | | | |
|--------|-------|-----------|--|
| 718807 | (229) | 37½ x 72" | solid top, tool drawers 17½ x 25 x 3½", shallow drawers 37½ x 25 x 2" inside |
| 718808 | (224) | 37½ x 72" | adjustable top, otherwise same as 718807 |
| 718809 | (247) | 43½ x 84" | solid top, drawer sizes same as 718807 |
| 718810 | (237) | 43½ x 84" | adjustable top, otherwise same as 718807 |
| 718811 | (244) | 43½ x 84" | solid top, tool drawers 20 x 32 x 3½", shallow drawers 42½ x 32 x 2" inside |
| 718812 | (234) | 43½ x 84" | adjustable top, otherwise same as 718811 |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON STEELWOOD DRAWING TABLES

These Steelwood Drawing Tables offer a major improvement in the design and construction of 4-post drawing tables in many years. As the name suggests, they offer a happy combination of the best practice in both steel and wood construction of traditional Hamilton quality.

Built to withstand many years of hard, continuous usage, their cost is no higher than the 4-post tables of all wood construction. Their framework of welded steel construction insures permanent rigidity, joints that can never become loose or wobbly, freedom from annoying repairs. The drawer units are of the proven Hamilton wood construction, while the drawers themselves have steel fronts with gray finish to harmonize with the all-steel body. Foot rail has a brass edge and all raising devices are zinc plated.

Hamilton Steelwood Tables are made in four popular sizes, in a variety of drawer combinations to meet all drafting room requirements. They are finished in gray baked enamel.

The drawer arrangement illustrated is probably the most popular and widely used arrangement ever developed for a 4-post drawing table. It consists of one large shallow drawer for tracings and papers, at the left, and a generously proportioned tool drawer, at the right, equipped with lock, sliding tool tray, and compartment for ink bottles. For drawer dimensions and other details, see specifications below.



71891

| | | TOP | DRAWERS | WIDTH | DEPTH | HEIGHT | EACH |
|-------|--------|-----------|---------------------------------|-------|-------|--------|------|
| 71891 | (1802) | 37½ x 60" | Long Drawer | 36½ | 28½ | 1½ | |
| | | | Tool Drawer with Tray | 10½ | 27¼ | 3¾ | |
| 71892 | (1806) | 37½ x 72" | Long Drawer | 41¾ | 27¼ | 1½ | |
| | | | Tool Drawer with Tray | 17½ | 24 | 3¾ | |
| 71893 | (1808) | 43½ x 72" | Long Drawer | 41¾ | 27¾ | 1½ | |
| | | | Tool Drawer with Tray | 17½ | 24 | 3¾ | |
| 71894 | (1812) | 43½ x 84" | Long Drawer | 53¾ | 31¾ | 1½ | |
| | | | Tool Drawer with Tray | 17½ | 24 | 3¾ | |

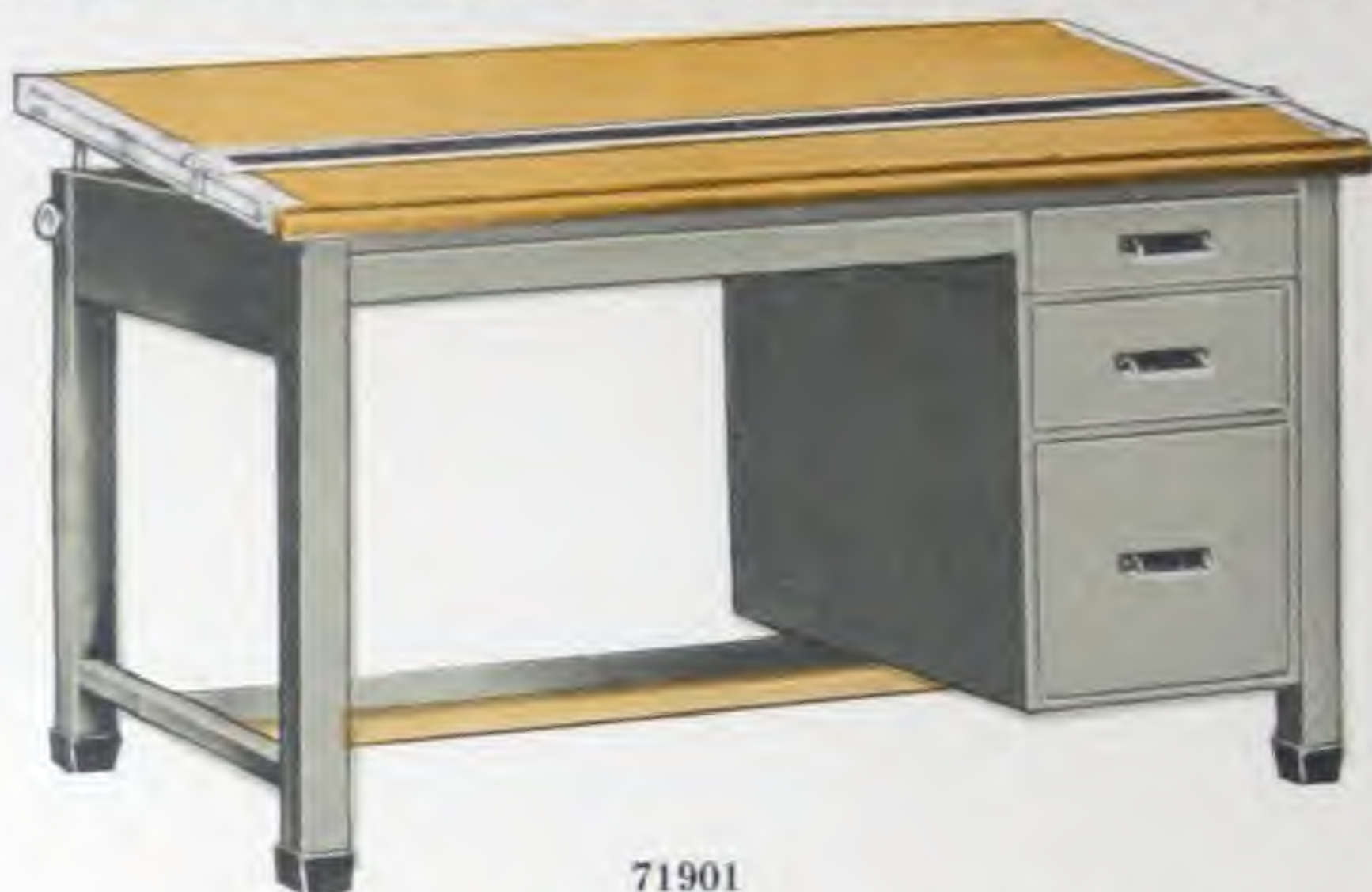
Lock on all tool drawers

(The parallel rule and attachment shown are extra)

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON STEELWOOD DRAWING TABLES



71901

EACH

- | | |
|----------------|---|
| 71901 (1802-D) | 37½ x 60", same as No. 71891, but with No. 71912 Drawer Unit (page 191) |
| 71902 (1806-D) | 37½ x 72", same as No. 71892, but with No. 71913 Drawer Unit (page 191) |
| 71903 (1808-D) | 43½ x 72", same as No. 71893, but with No. 71913 Drawer Unit (page 191) |
| 71904 (1812-D) | 43½ x 84", same as No. 71894, but with No. 71913 Drawer Unit (page 191) |



71905

| | Top | DRAWERS | WIDTH | DEPTH | HEIGHT | EACH |
|--------------|------------|---------------------------|-------|-------|--------|------|
| 71905 (1807) | 37½" x 72" | Tool Drawer with Tray... | 17½ | 25 | 3¾ | |
| | | Small Drawer (upper left) | 17½ | 25 | 3¾ | |
| | | Long Drawer | 37½ | 25 | 2 | |
| 71906 (1816) | 43½" x 84" | Tool Drawer with Tray... | 20 | 32 | 3¾ | |
| | | Small Drawer (upper left) | 20 | 32 | 3¾ | |
| | | Long Drawer | 42¾ | 32 | 2 | |

(The parallel rule and attachment shown are extra)

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON STEELWOOD DRAWING TABLES WITH STATIONARY REFERENCE SPACE



71911

Here is a Steelwood Table that gives you a stationary top surface for reference or instruments in addition to an adjustable drawing board top. If your drafting room space is limited, you will find this table an efficient space-saver. For art work, the stationary surface is especially useful as water jars and paints can be safely placed in it.

The adjustable portion of the top is a 36 x 48" wide California Sugar Pine drawing surface with steel end-cleat reinforcement. To adjust it, turn the lever on the side of the table and set it to any angle up to 46°. No hand wheels to adjust or tighten. The top locks rigidly at the desired angle.

The stationary top is 22 $\frac{3}{4}$ " wide by 36" deep. It is made of high quality pine with maple end cleats. The heavy welded steel base (regular lifetime Steel-wood construction) has a 24 $\frac{1}{2}$ " x 41 $\frac{3}{8}$ " x 1 $\frac{5}{16}$ " reference drawer and a 24" x 17 $\frac{5}{8}$ " x 3 $\frac{3}{4}$ " tool drawer with lock and tool tray.

EACH

71911 (1800) 36" x 48" Steelwood Drawing Table.....

AUXILIARY DRAWER UNITS FOR HAMILTON STEELWOOD TABLES

A Two-Drawer Unit that can easily be added to Steelwood Tables. Made of wood, the drawers have steel fronts. Finished in olive green to match table.

71912 For 71891 and 71901 Tables. Tool Drawer 10 $\frac{1}{16}$ " x 25 x 6"; Catalog Drawer 9 $\frac{3}{4}$ " x 25 x 12 $\frac{1}{16}$ ". EACH

71913 For Tables 71892, 71893 and 71894. Tool Drawer 17 $\frac{1}{4}$ " x 25 x 6"; Catalog Drawer 17 x 25 x 12 $\frac{1}{16}$ ". . EACH



71912

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON STEELWOOD DRAWING TABLES

Especially designed to conserve space in the drafting room. A row of these tables provides each man with a fixed height drawing surface and a reference surface as shown in the detail drawing at lower right. The drawing board is adjustable from horizontal to vertical or any intermediate angle, but its height is fixed. The board is $36\frac{1}{2}$ " high when it is in the flat position. The reference side of the table has a tool drawer equipped with lock and tool tray. Welded construction in the sturdy steel base assures you of rigidity and long life. The base is $56\frac{1}{2}$ " wide and $30\frac{5}{8}$ " from front to back. Wood shoes on the legs prevent injury to the floor when moving tables.

The drawing board top is made of California Sugar Pine, soft and evenly grained. It has steel end cleats for additional rigidity and strength and a pencil trough at the front.



71921

EACH

- | | |
|----------------|-------------------------------|
| 71921 (1801) | Table with 36" x 60" Top..... |
| 71922 (1801-A) | Table with 36" x 72" Top..... |
| 71923 (1801-B) | Table with 42" x 72" Top..... |

More Working Space In Less Floor Space

The rear or reverse side provides a working surface and tool drawer. The illustration shows how both sides can be efficiently used when tables are placed in a row, thus conserving space and increasing efficiency in the drafting room.



NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON AUTO-SHIFT TABLES SPEED PRODUCTION



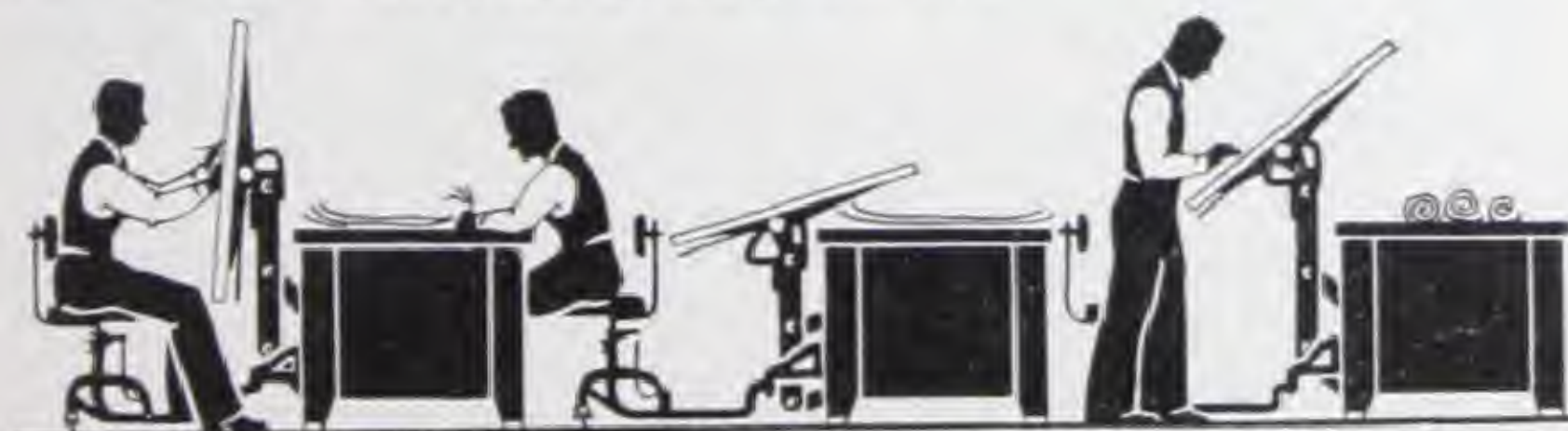
HAMILTON AUTO-SHIFT TABLES

Save Time Because You . . .

- Change Board Slope Instantly
- Change Board Height Instantly
- Work from Standing or Sitting Position
- Bring Any Part of Drawing to You
- Have Efficient Drawing Conferences
- Have Ample Reference Space
- Draw with Real Comfort and Efficiency

You can step up your drafting speed when you use **Hamilton Auto-Shift Drawing Tables**. The drawing surface is instantly adjusted to any convenient working height and slope. The heavy California Pine drawing board is counter-balanced. . . you just step on a pedal and with finger tip pressure set the board at the desired height. Slope changes are easily and readily made. Press a lever and swing the board to any angle. Board locks in desired position and cannot slip . . . You can work comfortably on any part of the drawing surface while seated or standing. You can instantly adjust the board from 35" to 44" (center height) and to any slope from horizontal to vertical. Board has plated steel end cleats.

It not only saves operating costs but conserves valuable floor space. Each engineer has a large clear working surface and a full size reference desk all in a convenient position . . . and it requires only 36 $\frac{1}{4}$ square feet per man. The result . . . less fatigue, and faster and better work . . . all at reduced costs.





HAMILTON AUTO-SHIFT TABLES STEEL BASE—CALIFORNIA SUGAR PINE TOP

ADJUSTABLE REFERENCE SURFACE



This view of an Auto-Shift shows you the 30" x 60 $\frac{1}{8}$ " adjustable hardwood reference surface, tool drawer, and the shallow reference drawer. The adjustable reference surface is made to slide forward 7 $\frac{5}{8}$ ", thus increasing the reference working area. When Auto-Shifts are used in a row (one in front of the other), each draftsman uses the drawers and reference surface of the table directly behind him. There is one shallow reference drawer size 36 $\frac{1}{4}$ " wide 25 $\frac{1}{2}$ " deep and 1 $\frac{1}{2}$ " high and one tool drawer 9 $\frac{3}{4}$ " wide, 25 $\frac{3}{4}$ " deep and 4 $\frac{3}{4}$ " high inside.

No. 71941 Reference Desk is used to supply a reference surface for the last draftsman in a row of Auto-Shifts. It looks like a standard office desk with a 30 $\frac{3}{4}$ " x 60 $\frac{1}{8}$ " wood top. It has a reference drawer and tool drawer and is similar to the base of the standard Auto-Shift without drawing top.

TWO-DRAWER FILING UNIT

2-drawer filing unit No. 71945, with one drawer 9 $\frac{7}{8}$ " x 17" x 4" and a file drawer 9 $\frac{7}{8}$ " x 17" x 8", can be supplied as an extra. This unit fits under the tool drawer of tables or 71941 Reference Desk.



EACH

- | | | | |
|-------|--------|--|-------|
| 71941 | (1817) | Reference Desk, 30 x 60 inch top | ..... |
| 71942 | (1818) | Auto-Shift Table, 37 $\frac{1}{2}$ x 60 inch | ..... |
| 71943 | (1819) | Auto-Shift Table, 37 $\frac{1}{2}$ x 72 inch | ..... |
| 71944 | (1820) | Auto-Shift Table, 43 $\frac{1}{2}$ x 72 inch | ..... |
| 71945 | (1823) | Two-drawer Unit | ..... |



NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON FLUORESCENT "SHADOWLESS" TRACING TABLE



71951

- ★ NO GLARE
- ★ NO EYE-STRAIN
- ★ LOWER LIGHT BILLS
- ★ COOL WORKING SURFACE
- ★ EVEN DISTRIBUTION OF LIGHT

Fluorescent Table—for tracing from blue prints, soiled tracings, etc., it is indispensable. With it, tracings can be made accurately at a great saving of time.

Large 24" x 36" plate glass tracing surface, sandblasted underneath to diffuse light. Illuminated by two 30-watt 36", T-8 Daylight Fluorescent Lamps which are complete with ballast, starter, and 10 feet of cord. Top tilts to desired slant, as shown, and white enamel reflector moves with the top. Top is of selected basswood 36" x 48" with one coat of varnish. Base is hardwood, golden oak finish. Height is 37". One roll of Scotch Tape is supplied. 110-volt, 60-cycle alternating current only.

Our regular parallel ruling attachment can be attached to this table to advantage.

EACH

71951 Fluorescent Table

See Price List Inside Back Cover



JUNIOR TRACING AND PHOTO-RETOUCHING TABLE



71961

Fluorescent Table—Equipped with two 15-watt, 18", T-8 Daylight Fluorescent Lamps for cool, even, glareless light. Ballast, starter and 10 feet of cord included. Plate glass center is 22 x 24", sandblasted on bottom side. Top overall is 31" x 32". Adjustable in slope and in height (32 $\frac{3}{4}$ " x 42 $\frac{1}{4}$ "). Entire top can slide forward or backward 15 $\frac{1}{2}$ " on channel suspension. A roll of Scotch Tape is included. White enamel reflector pan, basswood top, hardwood frame. For 110-volt, 60-cycle alternating current only.

EACH

71961 Fluorescent Table

PORTABLE TRACING BOARD



71962

Portable Tracing Board—Equipped with two 30-watt, 36", T-8 Daylight Fluorescent Lamps. Plate glass tracing surface is 24" x 36 $\frac{3}{4}$ ". White enamel reflector pan helps to distribute the light more evenly. Adjustable stop rods hold the board in place when used on an inclined drawing surface. It can be used on any drawing surface. A leather handle bolted to the top edge makes it easy to carry. The board is made of select white pine, finish natural color manolac. For 110-volt, 60-cycle alternating current only. It is a compact space-saving unit easy to use and inexpensive to buy.

EACH

71962 Portable Tracing Board

See Price List Inside Back Cover

EXTRAS FOR DRAWING TABLES

DUST COVER



Protect your drawings overnight against dust and dirt with a Hamilton Dust Cover. It neatly covers your table as shown above. The weighted roller at the bottom is to hold the cover snug to the table. The roller and black waterproofed cloth cover can be rolled to the back of the table, out of the way, into suitable holding brackets. The back view of the table top at right shows a cover rolled almost to the back and the dotted lines show how the roll rests in the holding brackets.

Dust covers can be furnished to roll the long way of the board if desired. Specify when ordering.

DUST COVERS MOUNTED ON ROLLERS

| SIZE OF BOARD | EACH | SIZE OF BOARD | EACH |
|---|----------|------------------------------|------|
| 719701 24" x 32" Dust Cover | | 719708 43½" x 72" Dust Cover | |
| 719702 31" x 42" Dust Cover | | 719709 43½" x 84" Dust Cover | |
| 719703 37½" x 48" Dust Cover | | 719710 48" x 72" Dust Cover | |
| 719704 37½" x 54" Dust Cover | | 719711 48" x 84" Dust Cover | |
| 719705 37½" x 60" Dust Cover | | 719712 48" x 96" Dust Cover | |
| 719706 37½" x 72" Dust Cover | | 719713 48" x 108" Dust Cover | |
| 719707 43½" x 60" Dust Cover | | 719714 48" x 120" Dust Cover | |
| 719715 Elliott, Black Oil Cloth for dust cover 50" wide, without roller | PER YARD | | |

AUXILIARY UNIT

Unit illustrated provides extra supply drawer and larger file drawer for catalogs and correspondence. Large drawer has follower to hold catalogs and papers upright. Finished to match 4-Post Wood Tables.

Overall Dimensions 12½" x 27½" x 19½"

Supply Drawer 10½" x 25" x 3½" inside

File Drawer 9½" x 25" x 12½" inside.

Will fit under tool drawer of all 4-Post Tables.



EACH

719716 Auxiliary Unit.

See Price List Inside Back Cover



GENERAL DESCRIPTION FOR REGULAR LINE

OAK PLANFILE UNITS

SPECIFICATIONS

| Cat. No. | Mfrs. No. | Description | Inside Drawer Size | | | Over-All Unit Size | | |
|------------------|-----------|---|--------------------|--------------------|-------------------|----------------------|--------------------|---------------------|
| | | | Width | Depth | Height | Width | Depth | Height |
| 2436 Line | | | | | | | | |
| 719801 | 37-T | Plain Cap. | | | | 40 $\frac{13}{16}$ " | 27 $\frac{3}{4}$ " | $\frac{1}{16}$ " |
| 719802 | 37-C | 5-Drawer Section | 37 $\frac{5}{8}$ " | 25" | 2" | 40 $\frac{11}{16}$ " | 27 $\frac{3}{8}$ " | 14 $\frac{7}{16}$ " |
| 719803 | 37-D | 3-Drawer Section | 37 $\frac{3}{8}$ " | 25" | 3 $\frac{5}{8}$ " | 40 $\frac{11}{16}$ " | 27 $\frac{3}{8}$ " | 14 $\frac{7}{16}$ " |
| 719804 | 37-G | Plain Base | | | | 40 $\frac{11}{16}$ " | 27 $\frac{7}{8}$ " | 4" |
| 719805 | 37-H | Low Sanitary Base | | | | 40 $\frac{11}{16}$ " | 27 $\frac{3}{8}$ " | 5 $\frac{3}{4}$ " |
| 719806 | 37-J | High Sanitary Base | | | | 40 $\frac{11}{16}$ " | 27 $\frac{1}{4}$ " | 22 $\frac{7}{8}$ " |
| 719807 | 37-K | Two Drawers 17 $\frac{5}{8}$ x 25 x 3 $\frac{3}{8}$ " with Tool Tray No. 129 and one Drawer 37 $\frac{5}{8}$ x 25 x 2" | | | | 40 $\frac{11}{16}$ " | 27 $\frac{3}{8}$ " | 9 $\frac{5}{16}$ " |
| 719808 | 37-M | Two Drawers 17 $\frac{5}{8}$ x 25 x 3 $\frac{3}{8}$ " with Tool Tray No. 129 and three Drawers 37 $\frac{5}{8}$ x 25 x 2" | | | | 40 $\frac{11}{16}$ " | 27 $\frac{3}{8}$ " | 14 $\frac{7}{16}$ " |
| 3042 Line | | | | | | | | |
| 719809 | 32-T | Plain Cap. | | | | 45 $\frac{5}{8}$ " | 34 $\frac{3}{4}$ " | $\frac{1}{16}$ " |
| 719810 | 32-C | 5-Drawer Section | 42 $\frac{3}{8}$ " | 32" | 2" | 45 $\frac{1}{2}$ " | 34 $\frac{3}{8}$ " | 14 $\frac{1}{16}$ " |
| 719811 | 32-D | 3-Drawer Section | 42 $\frac{1}{8}$ " | 32" | 3 $\frac{5}{8}$ " | 45 $\frac{1}{2}$ " | 34 $\frac{3}{8}$ " | 14 $\frac{7}{16}$ " |
| 719812 | 32-G | Plain Base | | | | 45 $\frac{1}{2}$ " | 34 $\frac{7}{8}$ " | 4" |
| 719813 | 32-H | Low Sanitary Base | | | | 45 $\frac{1}{2}$ " | 34 $\frac{3}{8}$ " | 5 $\frac{3}{4}$ " |
| 719814 | 32-J | High Sanitary Base | | | | 45 $\frac{1}{2}$ " | 34 $\frac{3}{8}$ " | 22 $\frac{7}{8}$ " |
| 719815 | 32-K | Two Drawers 20 x 32 x 3 $\frac{3}{8}$ " with Tool Tray No. 124 and one Drawer 42 $\frac{3}{8}$ x 32 x 2" | | | | 45 $\frac{1}{2}$ " | 34 $\frac{3}{8}$ " | 9 $\frac{5}{16}$ " |
| 719816 | 32-M | Two Drawers 20 x 32 x 3 $\frac{3}{8}$ " with Tool Tray No. 124 and three Drawers 42 $\frac{3}{8}$ x 32 x 2" | | | | 45 $\frac{1}{2}$ " | 34 $\frac{3}{8}$ " | 14 $\frac{5}{16}$ " |
| 3648 Line | | | | | | | | |
| 719817 | 44-T | Plain Cap. | | | | 53 $\frac{7}{16}$ " | 40 $\frac{3}{4}$ " | $\frac{1}{16}$ " |
| 719818 | 44-C | 5-Drawer Unit | 49 $\frac{1}{2}$ " | 37 $\frac{5}{8}$ " | 2 $\frac{1}{8}$ " | 53 $\frac{5}{16}$ " | 40 $\frac{3}{8}$ " | 16" |
| 719819 | 44-G | Flush Plain Base | | | | 53 $\frac{5}{16}$ " | 41" | 4" |
| 719820 | 44-H | Low Sanitary Base | | | | 53 $\frac{5}{16}$ " | 40 $\frac{3}{8}$ " | 5 $\frac{3}{4}$ " |

Locks—locking device to lock all drawers in three to five drawer units extra.

See Price List Inside Back Cover

HAMILTON OAK SECTIONAL FILING CASES



Cap Nos. 32T,
37T, 44T



Unit Nos. 32D,
37D



Unit Nos. 32K,
37K



Unit Nos. 32M,
37M



Flush Base
Nos. 32G,
37G, 44G



Sanitary Base
Nos. 32H,
37H, 44H

Hamilton Oak Sectional Plan File Cabinets are efficiently and economically serving thousands of drafting rooms. All units of the same line are interchangeable and permit any desired combination. They can be stacked to any reasonable height.

Cabinets are strong and durable. Sides are paneled. Drawers have sturdy mortise and tenon joints as shown in illustration above. They slide on runs on upright walls of cabinet, eliminating rails between drawers. Back of each drawer has a 4-inch hood and divided drawers also have a hood for each compartment.

Material and Finish—Well seasoned, kiln-dried oak, finished in light golden oak is used except for drawer bottoms which are made of welded fibre board for increased strength.

See Page 198 for Dimensions

HAMILTON OAK SECTIONAL FILING CASES

Showing Drawer Division for Filing Various Size Drawings

Style A



Plain Drawer
Showing Holding Down Wires (extra)

Style B



With Two Compartments—>

Style C



← With Four Compartments

Style D



With Six Compartments—>

Style E



← With Eight Compartments

All Partitions are sent separately and not installed.

| | |
|--|----------|
| Style A Drawer, Regular Equipment..... | |
| Style B Drawer..... | Extra |
| Style C Drawer..... | Extra |
| Style D Drawer..... | Extra |
| Style E Drawer..... | Extra |
| Hold Down Wires, Extra (Not Standard Equipment)..... | Per Pair |

EACH
DRAWER

Tracing Folder

Three or four Hamilton Tracing Folders can be filed in a 2-inch drawer. **When ordering**, specify catalog number of the unit. Folders are strongly made of .050" thick, three-ply center-core, cover with fiberoil, reinforced with tape and metal eyelets. Folders fit only units of same line number.



| CAT. NO. | LINE | FOLDER | SIZE RECORD | WIDTH | DEPTH | THICKNESS | EACH |
|----------|------|--------|-------------|--------|--------|-----------|------|
| 72001 | 2436 | (1951) | 24 x 36 | 36 1/4 | 24 1/2 | 1/2 | |
| 72002 | 3042 | (1952) | 30 x 42 | 42 3/4 | 31 1/2 | 1/2 | |
| 72003 | 3648 | (1953) | 36 x 48 | 49 1/4 | 37 1/4 | 1/2 | |

See Price List Inside Back Cover

STEEL FILING EQUIPMENT

Steel, with its greater strength and better wearing qualities, affords the best protection for your valuable tracings.

In the Hamilton Steel Line of filing equipment we present steel files of unequalled quality . . . heavy, sturdily built files that guarantee you long and useful service. These files are made of carefully selected furniture steel that has been reannealed and patent levelled to prevent buckling. All corners are welded, making each unit, in effect, a solid, rigid piece of steel.

Hamilton Steel Files are designed for efficiency, too. They have practical features that every man in charge of filing will appreciate. Each drawer in the five-drawer unit, for example, is entirely covered by a pantasote cover to protect the contents from dust and dirt. In addition, this cover holds the tracings in place, preventing them from creeping over the back of the drawer and keeping them flat and free from creases. Units of all kinds are available, all designed to match and interlock with other Hamilton Units of the same size.

The Hamilton Unit Plan File System is of special importance. In this usually called the 'O' line, the Hamilton Shallow Drawer Unit is available. Each drawer of this unit contains a tracing lifter, a device which removes all weight from the tracing you wish to file or remove from the drawer. As a result, every tracing in the drawer is as easy to file as though it were the top sheet. The Hamilton Line also offers a wide range and choice of units for every purpose . . . horizontal filing, vertical filing, or roll filing.

All Hamilton Units are designed in eight standard sizes . . . the 2436 and 24036 for 24" x 36" drawings, the 3042 and 30042 for 30" x 42" drawings, the 3648 and 36048 for 36" x 48" drawings, 42072 for 42" x 72" sheets, and the 25059 for 25" x 59" sheets. With this complete range of sizes, you can solve every filing problem.



GENERAL DESCRIPTION FOR REGULAR LINE HAMILTON STEEL FILING UNITS

| Cat.
No. | Mfrs.
No. | Steel Planfile Units | Drawer
Inside Dimensions | | | Unit
Outside Dimensions | | |
|-------------|--------------|---|-----------------------------|-------|-----------------|----------------------------|------------------|------------------|
| | | | Width | Depth | Height | Width | Depth | Height |
| 2436 Line | | | | | | | | |
| 720201 | (1835) | Caps for Units..... | | | | 40 $\frac{13}{16}$ | 29 $\frac{1}{4}$ | $\frac{11}{16}$ |
| 720202 | (1830) | 5-Drawer Unit..... | 37 | 26 | 2 | 40 $\frac{13}{16}$ | 28 $\frac{1}{2}$ | 15 $\frac{3}{8}$ |
| 720203 | (1831) | 3-Drawer Unit—Drawers
3 $\frac{3}{4}$ " Deep..... | 37 | 26 | 3 $\frac{3}{4}$ | 40 $\frac{13}{16}$ | 28 $\frac{1}{2}$ | 15 $\frac{3}{8}$ |
| 720204 | (1837) | Flush Base..... | | | | 40 $\frac{13}{16}$ | 28 $\frac{1}{2}$ | 4 |
| 720205 | (1874) | 6" Sanitary Base Legs for
All Units..... | | | | | | |
| 720206 | (1841) | Sanitary Base 12"..... | | | | 40 $\frac{13}{16}$ | 28 $\frac{1}{2}$ | 12 |
| 720207 | (1839) | Sanitary Base 23"..... | | | | 40 $\frac{13}{16}$ | 28 $\frac{1}{2}$ | 22 $\frac{1}{4}$ |
| 720208 | (1840) | Card File Unit, 5-Drawers,
for Cards 3 x 5" or 4 x 6"..... | | | | 40 $\frac{13}{16}$ | 28 $\frac{1}{2}$ | 7 $\frac{1}{4}$ |
| 3042 Line | | | | | | | | |
| 720209 | (1853) | Cap for Units..... | | | | 46 $\frac{13}{16}$ | 36 $\frac{1}{4}$ | $\frac{11}{16}$ |
| 720210 | (1848) | 5-Drawer Unit..... | 43 | 32 | 2 | 46 $\frac{13}{16}$ | 35 $\frac{1}{2}$ | 15 $\frac{3}{8}$ |
| 720211 | (1849) | 3-Drawer Unit..... | 43 | 32 | 3 $\frac{3}{4}$ | 46 $\frac{13}{16}$ | 35 $\frac{1}{2}$ | 15 $\frac{3}{8}$ |
| 720212 | (1855) | Flush Base..... | | | | 46 $\frac{13}{16}$ | 35 $\frac{1}{2}$ | 4 |
| 720213 | (1874) | 6" Sanitary Base Legs for
All Units..... | | | | | | |
| 720214 | (1861) | Sanitary Base 12"..... | | | | 46 $\frac{13}{16}$ | 35 $\frac{1}{2}$ | 12 |
| 720215 | (1857) | Sanitary Base 23"..... | | | | 46 $\frac{13}{16}$ | 35 $\frac{1}{2}$ | 22 $\frac{1}{4}$ |
| 3648 Line | | | | | | | | |
| 720216 | (1867) | Cap for Units..... | | | | 53 $\frac{13}{16}$ | 42 $\frac{1}{4}$ | $\frac{11}{16}$ |
| 720217 | (1868) | 5-Drawer Unit..... | 50 | 38 | 2 | 53 $\frac{13}{16}$ | 41 $\frac{1}{2}$ | 15 $\frac{3}{8}$ |
| 720218 | (1869) | 3-Drawer Unit..... | 50 | 38 | 3 $\frac{3}{4}$ | 53 $\frac{13}{16}$ | 41 $\frac{1}{2}$ | 15 $\frac{3}{8}$ |
| 720219 | (1873) | Flush Base..... | | | | 53 $\frac{13}{16}$ | 41 $\frac{1}{2}$ | 4 |
| 720220 | (1874) | 6" Sanitary Base Legs for
All Units..... | | | | | | |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover



HAMILTON STEEL FILING UNITS

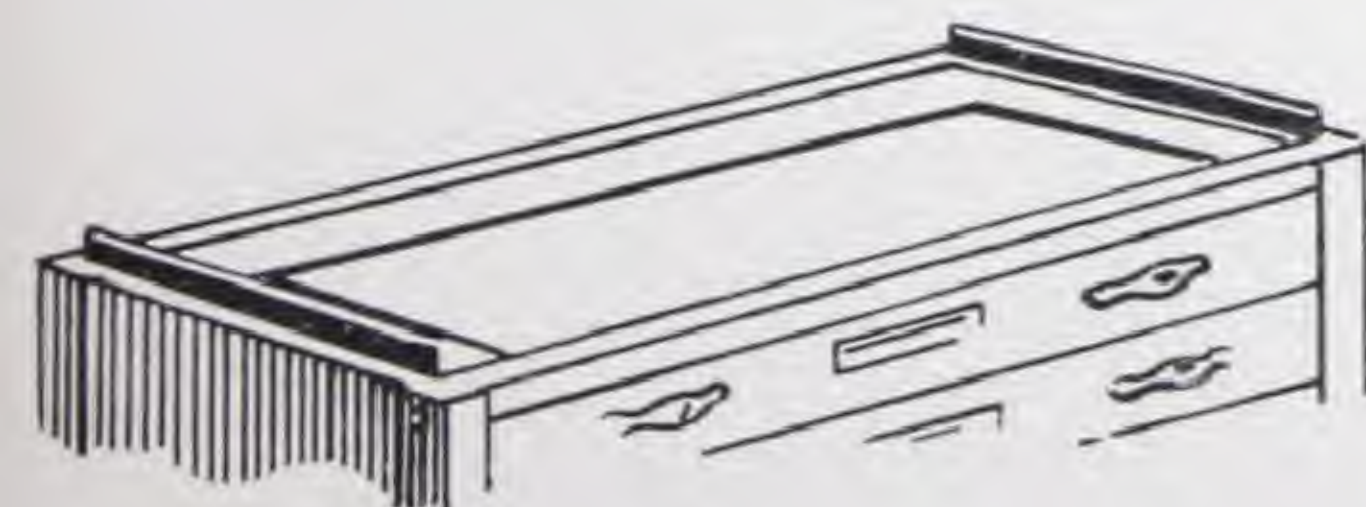


Construction: Hamilton Steel Cabinets are practically everlasting. They outlive the purchaser. Units are all welded of heavy gauge steel. Corner posts are 14 gauge steel, welded to the sides, back, top and bottom frames. These heavy corner posts support the units above without sagging. Drawers cannot bind. Units can be stacked higher and safer. No other unit has such strong corners.

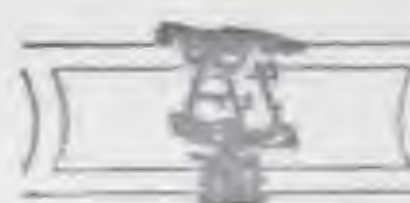
Non-Sagging Drawers: Drawers have 22-gauge bottom, 16 gauge sides, and 16 gauge reinforced top edges on side rails. Cannot sag.

You can push in a Hamilton File Drawer by one corner . . . still it runs true without jamming at the side. The guide runs guide it accurately.

Hamilton Drawers cannot be accidentally jerked out, yet can easily be removed for cleaning.



Interlocking: Flanges in the top frame interlock units and prevents shifting when you stack them. There are holes in the unit sides, also, so you can bolt adjacent stacks tightly together.



HAMILTON STEEL FILING UNITS

Every drawer in Hamilton Units is completely covered with a black coated canvas cover that is fastened to the rear hood and hooked in the front. This cover keeps out dirt and holds tracings flat.

Any 2" drawer can be subdivided as shown at right. They are made by combining No. 1 and No. 2 partitions. All drawers are pre-punched so that partitions can be added at any time.

We recommend filing not more than 100 active tracings to a drawer for more convenient handling and less danger of tearing and creasing, but each drawer will hold 250 tracings.

For convenience in handling sets or groups of tracings, we suggest the use of Tracing Folders in the drawers.

TRACING FOLDERS

Folders are strongly made of .050" thick, three-ply center-core, cover with fiberoid, reinforced with tape and metal eyelets. Folders fit only units of same line number.

At left, below, Hamilton Folder closed. At right, below, open folder with hinged top flap turned back showing how side flaps hold up top.



Showing Drawers and Dividers for 2-inch drawers only.

| CAT. No. | LINE | FOLDER | SIZE RECORD | WIDTH | DEPTH | THICKNESS | EACH |
|----------|-----------------|--------|-------------|------------------|------------------|---------------|------|
| 72041 | 2436 | 1951 | 24x36 | 36 $\frac{1}{4}$ | 24 $\frac{1}{2}$ | $\frac{1}{2}$ | |
| 72042 | 3042 | 1952 | 30x42 | 42 $\frac{3}{8}$ | 31 $\frac{1}{2}$ | $\frac{1}{2}$ | |
| 72043 | 3648 | 1953 | 36x48 | 49 $\frac{1}{4}$ | 37 $\frac{1}{4}$ | $\frac{1}{2}$ | |
| 72044 | Partition No. 1 | | | | | | |
| 72045 | Partition No. 2 | | | | | | |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON UNIT PLAN FILE SYSTEM

The Hamilton System expresses a new conception of efficiency in Horizontal Sectional Filing Cabinets, Unique Shallow Drawer Units with individual "Tracing Lifters," Label Holders and Pulls, Vertical Filing Cabinets, Roll Tracing Filing Cabinets, Card Files, etc.

Extensive study and thorough analyses of drafting room and filing practice in large and small industries of every description, and in architectural and engineering organizations throughout the world, inspired the ideas and development of the **Hamilton** line. Every detail of the following 9 pages deserves your most careful consideration. Briefly, here are some of the advantages you should not overlook.

The Hamilton System provides for proper classification of **active**, **semi-active**, and **inactive** plans, tracings and data, thus organizing all work in a systematic manner. For instance, the Shallow Drawer Units exhibited on page 206 are designed for **active** tracings; the 5-Drawer Units on page 209 are for **semi-active** tracings.

Each drawer of the Shallow Drawer Units is equipped with a unique mechanical Tracing Lifter, described in detail on page 207, a decidedly important feature that saves time, money and tracings, reducing wear and tear on tracings as much as 90%.

The 5-Drawer Units are equipped with Protectors.

The Vertical Plan Files on pages 210, 212, 213 and 214 represent one of the most useful developments in the **Hamilton** line. Occupying only 18 inches in depth of floor space, this file takes 2600 sheets (up to 6 ft.) and permits easy removal or replacement of any individual plan or sets of plans. The method by which plans are removed and replaced is a remarkable time-saving feature.

Savings in drafting room costs up to 10% have been recorded through installation of the **Hamilton System**; in dollars and cents such savings eventually pay for the equipment many times over!

All units are standardized into three size groups, the "24036 Line", for plans up to 24" x 36", the "30042 Line", for plans up to 30" x 42", and the "36048 Line", for plans up to 36" x 48".

Be sure to order all units from one particular line to be certain of interlocking.



HAMILTON SHALLOW-DRAWER UNITS FOR ACTIVE TRACINGS

Original engineering drawings must be safeguarded against harm from dirt, dust, rodents, and careless handling. They are far too valuable to risk any damage to them. Hamilton Shallow Drawer Units give your original drawings the protection they deserve and need. Here are some of the exclusive, protective features which no other filing equipment gives you:

- Keeps sheets flat. Flat sheets are better preserved and easier to handle.
- Easy to select sheets. Any sheet in the drawer is easily accessible.
- Removes all weight from sheets during filing and refiling. This eliminates tension and strain that so often causes dog-eared and torn tracings. Speeds up filing, too.
- Keeps title blocks lined up and eliminates shifting of sheets because rear hood is adjustable. Can be set for proper depth of drawer to conform to short tracing dimension.
- Makes maximum use of floor space. One 10-drawer unit, only $15\frac{3}{8}$ " high, has a capacity of 1,000 sheets. Yet drawers are not overcrowded: there are only 100 sheets to each drawer and every sheet is instantly accessible and readily located.
- Constructed for lifetime service. Shallow Drawer Units are of heavily built, spot-welded construction for rigidity and long life. Drawers operate smoothly and easily.



10-Drawer Shallow-Drawer Units, 3 Sizes

| | LINE NO. | OUTSIDE DIMENSIONS | DRAWERS INSIDE | EACH |
|---------------|----------|---|---|------|
| 72061 (19070) | 24036 | $43\frac{3}{16}" \times 32\frac{1}{2}" \times 15\frac{3}{8}"$ | $37\frac{1}{2}" \times 29" \times \frac{3}{4}"$ | |
| 72062 (18094) | 30042 | $49\frac{5}{16}" \times 38\frac{1}{2}" \times 15\frac{3}{8}"$ | $43\frac{1}{2}" \times 35" \times \frac{3}{4}"$ | |
| 72063 (19004) | 36048 | $55\frac{5}{16}" \times 44\frac{1}{2}" \times 15\frac{3}{8}"$ | $49\frac{1}{2}" \times 41" \times \frac{3}{4}"$ | |

All of the 10-Drawer Units are carried in stock. All have one Pull and two Label Holders.

All of the above units are equipped with Adjustable Hood in back of each drawer.

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON SHALLOW-DRAWER UNITS

HOW TO OPERATE SHALLOW DRAWERS

The Hamilton Shallow Drawer Steel Units are for active tracings . . . current tracings that you use frequently. Such tracings usually get the most wear and tear. In a Hamilton Shallow Drawer Unit, however, the strain and tension that is the most common cause of damage is largely eliminated. This is accomplished by the patented Tracing Lifter shown below.

Lifter Acts as Compressor

This shows the compressor lying flat, holding the sheets down, and preventing crumpling, curling, or tearing.



Turning Back the Front of Lifter

The front half of lifter is lifted up, and the desired tracing is then located. Note that the rear half of lifter is still holding the sheets down.



Selecting Sheet Desired

The sheet shown flat on top is the one desired. Those above it have been turned over the lifter, which is then turned back, removing all pressure from tracing wanted.



Removing Sheet Desired

The tracing desired is now the top sheet, and may be removed easily as shown in the illustration, without any strain on the sheet.



Replacing Sheet

The tracing is now being replaced in its original position. No wrinkling, crumpling, buckling, or cracking.



ADJUSTABLE REAR HOOD



Every drawer in the Hamilton Shallow Drawer Unit is equipped with an adjustable rear hood. This hood slides over the slotted drawer sides as shown, is set at the desired depth and the swing lock bar is dropped into the slot to hold the hood securely. The drawer thus is adjustable, front to back, to tracing sizes. Also the sheets cannot curl or creep over the back of the drawer.

HAMILTON STEEL FILING UNITS

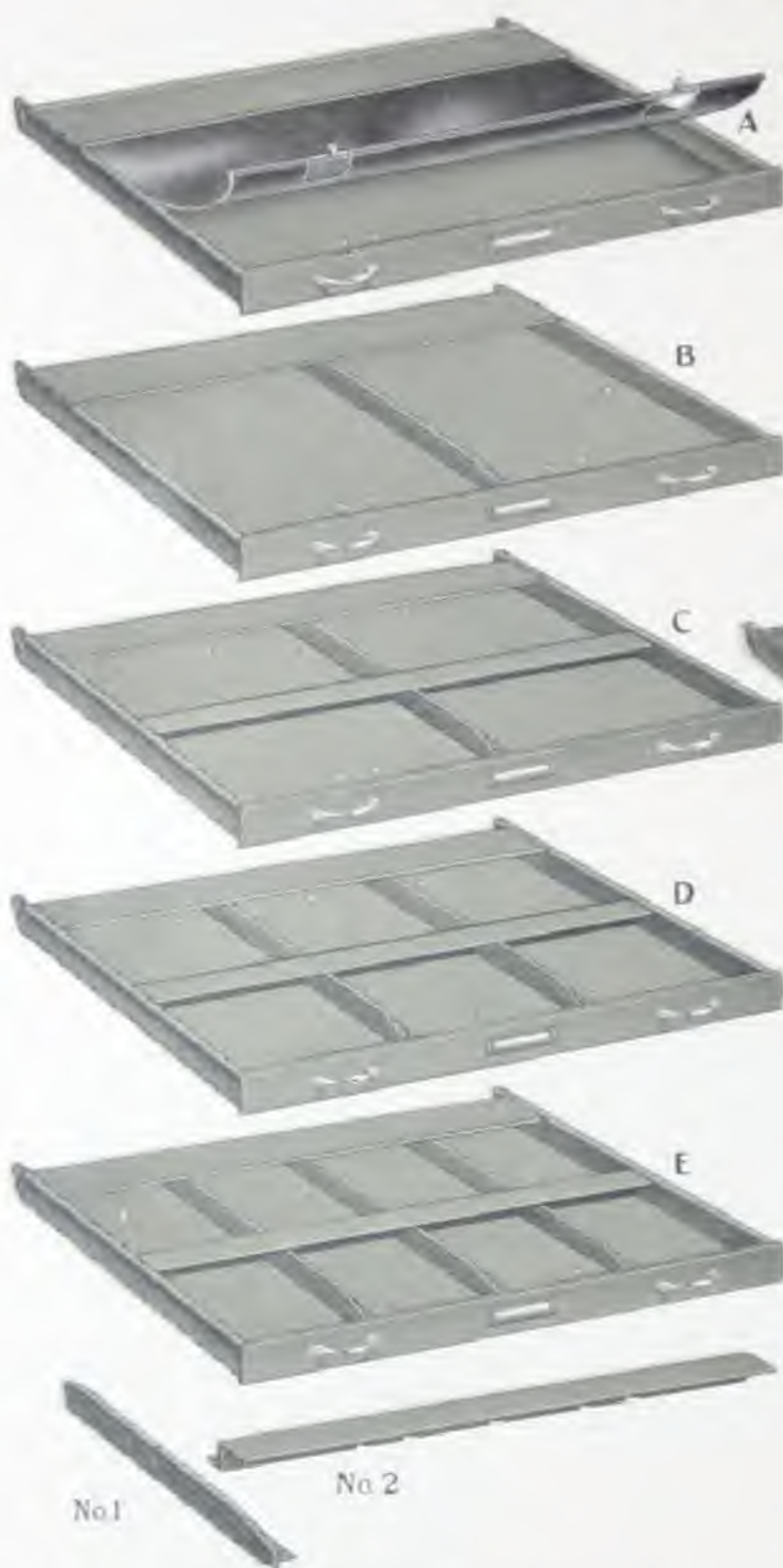


Fig. 1 — Showing Drawers and Dividers



Fig. 2—Showing construction of planfile drawer (inside view of front). Also drawing protector and front lock.



Fig. 3 — Showing Drawing Protector.

TRACING FOLDERS



Showing Folder Closed



Folder with hinged top flap turned back, showing how side flaps hold up top.

EACH

- | | | |
|-------|--------------------------------|-------|
| 72081 | Drawer Divider No. 1 | ..... |
| 72082 | Drawer Divider No. 2 | ..... |
| 72083 | Folders for 24036 Line Drawers | ..... |
| 72084 | Folders for 30042 Line Drawers | ..... |
| 72085 | Folders for 36048 Line Drawers | ..... |

See Price List Inside Back Cover



HAMILTON STEEL UNITS

FIVE DRAWER UNITS FOR SEMI-ACTIVE TRACINGS

Every drawer in Hamilton 5-Drawer Units is completely covered with a black coated canvas cover that is fastened to the rear hood and hooked to the front. This cover keeps out dirt and holds tracings flat.

Rollers at the front and rear make each drawer run smoothly and easily. Because of the safety stop, the drawers cannot be withdrawn accidentally; but they may be easily removed if desired.

We recommend filing not more than 100 tracings to a drawer for more convenient handling and less danger of tearing and creasing, but each drawer will hold 250 tracings.

For convenience in handling sets and groups of tracings, we suggest the use of Tracing Folders in the drawers (see page 208).

Any of the divided drawer arrangements shown can be used for smaller sized tracings. They are made by combining No. 1 and No. 2 partitions. The drawers are re-punched so that partitions may be added at any time.



GENERAL INFORMATION

| LINE NO. | OUTSIDE DIMENSIONS | | | DRAWERS INSIDE | | | EACH |
|--------------------|--------------------|--------------------|--------------------|--------------------|-------|--------|------|
| | WIDTH | DEPTH | HEIGHT | WIDTH | DEPTH | HEIGHT | |
| 2091 (19085) 24036 | 43 $\frac{1}{8}$ " | 32 $\frac{1}{2}$ " | 15 $\frac{3}{8}$ " | 39 $\frac{1}{2}$ " | 29" | 2" | |
| 2092 (18048) 30042 | 49 $\frac{3}{8}$ " | 38 $\frac{1}{2}$ " | 15 $\frac{3}{8}$ " | 45 $\frac{1}{2}$ " | 35" | 2" | |
| 2093 (18068) 36048 | 55 $\frac{1}{8}$ " | 44 $\frac{1}{2}$ " | 15 $\frac{3}{8}$ " | 51 $\frac{1}{2}$ " | 41" | 2" | |

CARD FILE UNITS

(For 4 x 6" or 3 x 5" cards)



Unit 72094 has 5 drawers and 72095 has six drawers as shown above. Drawers will take 4 x 6" or 3 x 5" cards.

When used for 3 x 5" cards, filler strips furnished with all units are left in place. When used for 4 x 6" cards, the filler strips are removed.

The use of the card file unit, in connection with the plan file unit, promotes efficiency and time saving. Drawers in the 24036 line unit have 24 inches of filing capacity, a total of 120 inches for the five drawers. The drawers in the 30042 line unit have 29 inches of filing capacity, a total of 174 inches for the six drawers.

| | LINE NO. | OUTSIDE DIMENSIONS | | | EACH |
|--------------|----------|--------------------|--------------------|-------------------|------|
| | | WIDTH | DEPTH | HEIGHT | |
| 2094 (19093) | 24036 | 43 $\frac{3}{8}$ " | 32 $\frac{1}{2}$ " | 7 $\frac{1}{8}$ " | |
| 2095 (18058) | 30042 | 49 $\frac{3}{8}$ " | 38 $\frac{1}{2}$ " | 7 $\frac{1}{8}$ " | |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover



HAMILTON VERTICAL PLAN FILE UNIT

Hamilton Vertical Plan File 72101 for 9 x 12 tracings has a capacity of 3,000 sheets per drawer or a total capacity of 9,000

sheets for the three drawers—the 72102 File has a capacity of 6,000 12 x 18 tracings. The above capacities are figured for extremely active tracings. If files are used for storage of inactive or dead tracings, the capacities will be 50% to 100% greater.

All drawers in the two units shown have 24 inches of clear filing space. Each drawer is divided into ten separate compartments. Six folders are furnished for each compartment, making a total of sixty folders per drawer. Fifty tracings should be filed in each folder. Extra folders can be purchased for greater capacity.

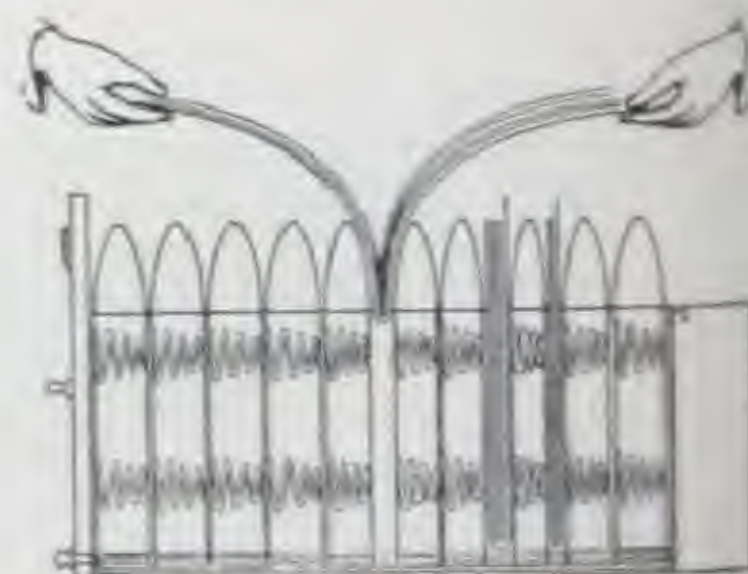
Compression springs are provided in each compartment for compressing and holding tracings in an upright position. To remove or replace tracings, lift folder till free of compression, then page through like a book, withdraw from, or insert tracing in proper location. Close folder and return to file.

All units are finished in Olive Green Baked Enamel. All drawers have progressive suspension roller bearing mechanism for easy operation.



SPECIFICATIONS

| LINE
No. | | | OUTSIDE DIMENSIONS | | | SIZE OF RECORD
To Be Filed | EACH |
|---------------|-------|----------|---------------------|--------------------|--------------------|-------------------------------|------|
| | | | WIDTH | DEPTH | HEIGHT | | |
| 72101 (19040) | 24036 | 3 Drawer | 43 $\frac{1}{16}$ " | 32 $\frac{1}{2}$ " | 15 $\frac{3}{8}$ " | 9" x 12" | |
| 72102 (19041) | 24036 | 2 Drawer | 43 $\frac{1}{16}$ " | 32 $\frac{1}{2}$ " | 15 $\frac{3}{8}$ " | 12" x 18" | |



Above is shown a typical Hamilton vertical file drawer—Spring compressors are an integral part of vertical plan file drawers. A steel partition separates each group of two compressors, forming two pockets between separators. Ten pockets to the drawers, each equipped with six tracing folders.

Beside this illustration is a diagram of the spring suspension method, showing a folder pulled out and opened.

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON STEEL UNITS

CAP AND BASES



Cap Unit

| LINE No. | OUTSIDE DIMENSIONS | | | EACH |
|---------------|--------------------|-----------------------------------|----------------------------------|-----------------------------------|
| | WIDTH | DEPTH | HEIGHT | |
| 21101 (19083) | 24036 | 43 ⁵ / ₁₆ " | 33 ¹ / ₄ " | 13 ¹ / ₁₆ " |
| 21102 (18053) | 30042 | 49 ⁵ / ₁₆ " | 39 ¹ / ₄ " | 13 ¹ / ₁₆ " |
| 21103 (18067) | 36048 | 55 ⁵ / ₁₆ " | 45 ¹ / ₄ " | 13 ¹ / ₁₆ " |



4-Inch Flush Base Unit

| LINE No. | WIDTH | DEPTH | HEIGHT | EACH |
|---------------|-------|-----------------------------------|----------------------------------|------|
| 21104 (19095) | 24036 | 43 ⁵ / ₁₆ " | 32 ¹ / ₂ " | 4" |
| 21105 (18055) | 30042 | 49 ⁵ / ₁₆ " | 38 ¹ / ₂ " | 4" |
| 21106 (18073) | 36048 | 55 ⁵ / ₁₆ " | 44 ¹ / ₂ " | 4" |



6-Inch Sanitary Base Legs

| | | |
|---------------|--------------------|-----|
| 21107 (18074) | Set of 4 legs..... | SET |
|---------------|--------------------|-----|

Adaptable to any of the Units regardless of the size.



High Sanitary Base

| LINE No. | WIDTH | DEPTH | HEIGHT | EACH |
|---------------|-------|-----------------------------------|----------------------------------|------|
| 21108 (19097) | 24036 | 43 ⁵ / ₁₆ " | 32 ¹ / ₂ " | 12" |
| 21109 (18061) | 30042 | 49 ⁵ / ₁₆ " | 38 ¹ / ₂ " | 12" |
| 21110 (19012) | 36048 | 55 ⁵ / ₁₆ " | 44 ¹ / ₂ " | 12" |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover



B. K. ELLIOTT COMPANY



HAMILTON STEEL VERTICAL U-TRACING FILE

GRAY ENAMEL FINISH



**Double-Wall Insulated
Construction for Better
Fire-Resisting Qualities**

It is easy for you to locate drawings in this improved vertical file. Just raise the top cover and 3,000 tracings are available, indexed on cards fastened to the inside of the top. Each of the 60 folders is also indexed. Whether you have three or three thousand drawings in your file, the folders are always held tightly upright by pressure from 15 full height compressor dividers. This pressure is evenly distributed over the whole folder, not just at top or bottom. The compressor dividers are "free-floating" and have rollers at the top so that they slide back and forth easily. These rollers are not exposed, they are covered by a sloping steel channel.

The bottom of the compressors are connected with flexible fabric. Protection for your drawings is assured by the double-wall construction of the file. The inner wall or shell is insulated from the heavy welded outer shell with thick, solid fire-felt. The snug-fitting top is insulated double-wall construction also. The top stays up when desired. It has a continuous full-length hinge for strength. 60 tough Paperoid folders, lock for cover, and steel wheel casters are included with file.

| | | | NUMBER
OF
POCKETS | SIZE
OF
FOLDERS | NUMBER
OF
FOLDERS | WIDE
INCHES | OUTSIDE SIZE
HIGH INCHES | DEEP INCHES | EACH |
|-------|-------|-----------|-------------------------|-------------------------|-------------------------|----------------|-----------------------------|------------------|------|
| 72121 | (406) | Full Size | 15 | 38 x 28 $\frac{1}{4}$ " | 60 | 42 | 35 $\frac{13}{16}$ | 30 $\frac{1}{2}$ | |
| 72122 | (407) | Full Size | 15 | 44 x 34 $\frac{1}{4}$ " | 60 | 48 | 41 $\frac{13}{16}$ | 30 $\frac{1}{2}$ | |
| 72123 | (408) | Full Size | 15 | 50 x 37 $\frac{3}{4}$ " | 60 | 54 | 45 $\frac{5}{16}$ | 30 $\frac{1}{2}$ | |

These Features Help You File Efficiently



This cross section view shows how folders are held upright by the compressor springs and partitions. Note the continuous strip of fabric at bottom so folders cannot slide down.



The way in which the compressor springs operate to hold folders upright is also shown in this sectional view. All folders and drawings are held firmly in place by strong springs.



Hold a piece of paper between the palms of your hands: gently but firmly. The compressor springs holding the folders upright are equivalent to nine such pairs of hands.

Note—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

HAMILTON STEEL VERTICAL PLAN FILE



File Rack Open

The Hamilton Vertical Plan File will take any size sheets or plans up to the maximum size listed on page 214.

Compact: The Hamilton Vertical Plan File takes only 18 inches in depth of floor space. The rack is closed by pushing downward on the

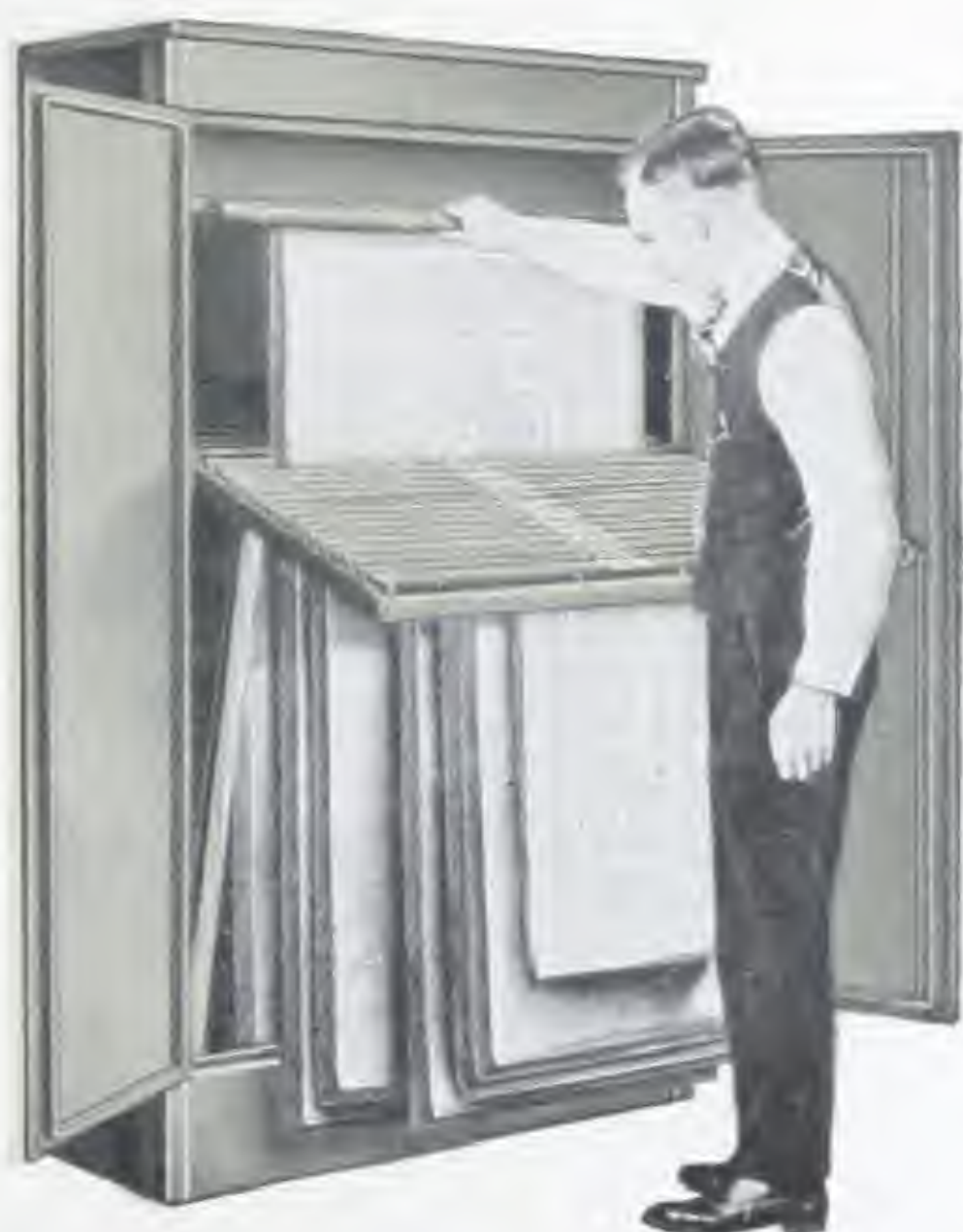
The Vertical Plan File is designed to efficiently handle reference plans, maps, charts, etc. Here is a file that has a place in every office and fills a most important gap in filing of large sheets. A space saver requiring but a small amount of floor space.

The cut to the left shows the file rack pulled out for removal of binders, which hold the plans. There are 26 binders and each binder will hold 100 sheets.

It is unnecessary to punch holes in plans. The binder clamps and holds securely at all times without danger of slipping. The sheets or sets of plans are easily removed or placed in the binders.

Easy Reference: When a set or group of plans are wanted for reference, the correct binder is located by indication on label holder, and lifted from the rack as shown below.

The illustration on this page shows the manner of replacing sets on the rack. As each binder has a label holder, it is easy to locate the plans desired.



Replacing Plans

lower end, which moves back and upward into the cabinet. It then stands nearly vertical.

Capacity: This file has a capacity of 2600 sheets. The shelf above can be used for storage of paper, tracing cloth, etc. All Hamilton files will take plans from 36 to 70 inches in length. The short sets should be filed toward the front of the rack and the long sets to the rear.

Material and Finish: Made of finest quality furniture steel, finished gray, baked enamel.

Style of Racks: The rack holding the binders is made in three styles, namely: Plain, Style A, and Style B. (See Page 214) However, all Vertical Files are equipped with the plain rack which holds 26 binders—the maximum size each cabinet will accommodate. Style A and B Racks are subdivided, and will be supplied in place of the plain rack when so ordered.

Specifications on page 214.

See Price List Inside Back Cover

~~~~~ [ PAGE 213 ] ~~~~~



**HAMILTON VERTICAL PLAN FILE**

(Continued)

**Plain Rack****Style A Rack****Style B Rack**

**The Subdivided Racks:** The rack can be divided as shown in cut of Style A and B rack.

The plain rack is supplied in all cabinets except when otherwise ordered, and holds 26 full-size binders.

The style A rack is supplied for half-size binders and will take 52 binders.

The style B rack will take 13 full-size binders at the rear and 24 half-size binders at the front.



**The Binder:** The cut at the left shows a detail of the Sheet Binder. The key shown fits the screws with which the binders are tightened. It is made so that it will not slip easily off of the screw head. The jaws of the binder spring apart as the screws are loosened to permit insertion.

**Locking Up Binders**

When contents are placed in binders, screws should be turned by hand until reasonably tight, then tighten screws one turn with key.

Old prints or tracings that are badly worn should be protected by a folder shaped like an inverted U of heavy wrapping paper or oil cloth.

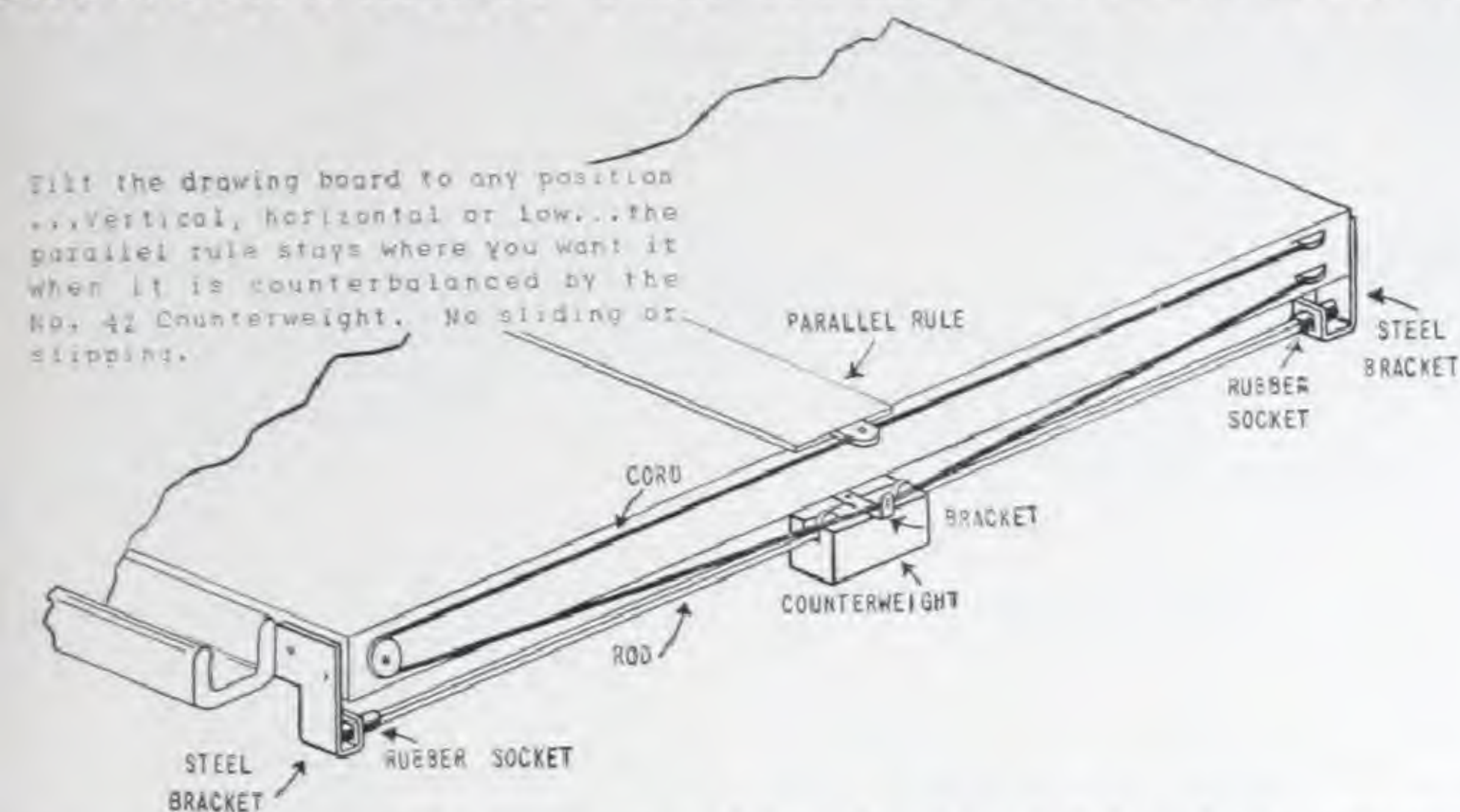
|       |         | MAXIMUM<br>FILING<br>SIZE | STYLE<br>OF<br>RACK | NUMBER<br>OF<br>FULL<br>WIDTH<br>BINDERS | NUMBER<br>OF<br>HALF<br>WIDTH<br>BINDERS | FLOOR<br>SPACE<br>REQUIRED | SHIPPING<br>WEIGHT | EACH |
|-------|---------|---------------------------|---------------------|------------------------------------------|------------------------------------------|----------------------------|--------------------|------|
| 72141 | (1877)  | 36"x70"                   | Plain               | 26                                       |                                          | 18x44 $\frac{3}{4}$ x72    | 550 lbs.           |      |
| 72142 | (1877A) | 17"x70"                   | Style A             |                                          | 52                                       | 18x44 $\frac{3}{4}$ x72    | 550 lbs.           |      |
| 72143 | (1877B) | 36"x70"                   | Style B             | 13                                       | 24                                       | 18x44 $\frac{3}{4}$ x72    | 550 lbs.           |      |
| 72144 | (1879)  | 48"x70"                   | Plain               | 26                                       |                                          | 18x56 $\frac{3}{4}$ x72    | 700 lbs.           |      |
| 72145 | (1879A) | 23"x70"                   | Style A             |                                          | 52                                       | 18x56 $\frac{3}{4}$ x72    | 700 lbs.           |      |
| 72146 | (1879B) | 48"x70"                   | Style B             | 13                                       | 24                                       | 18x56 $\frac{3}{4}$ x72    | 700 lbs.           |      |

**NOTE**—Numbers shown in (—) are manufacturers' numbers

*See Price List Inside Back Cover*



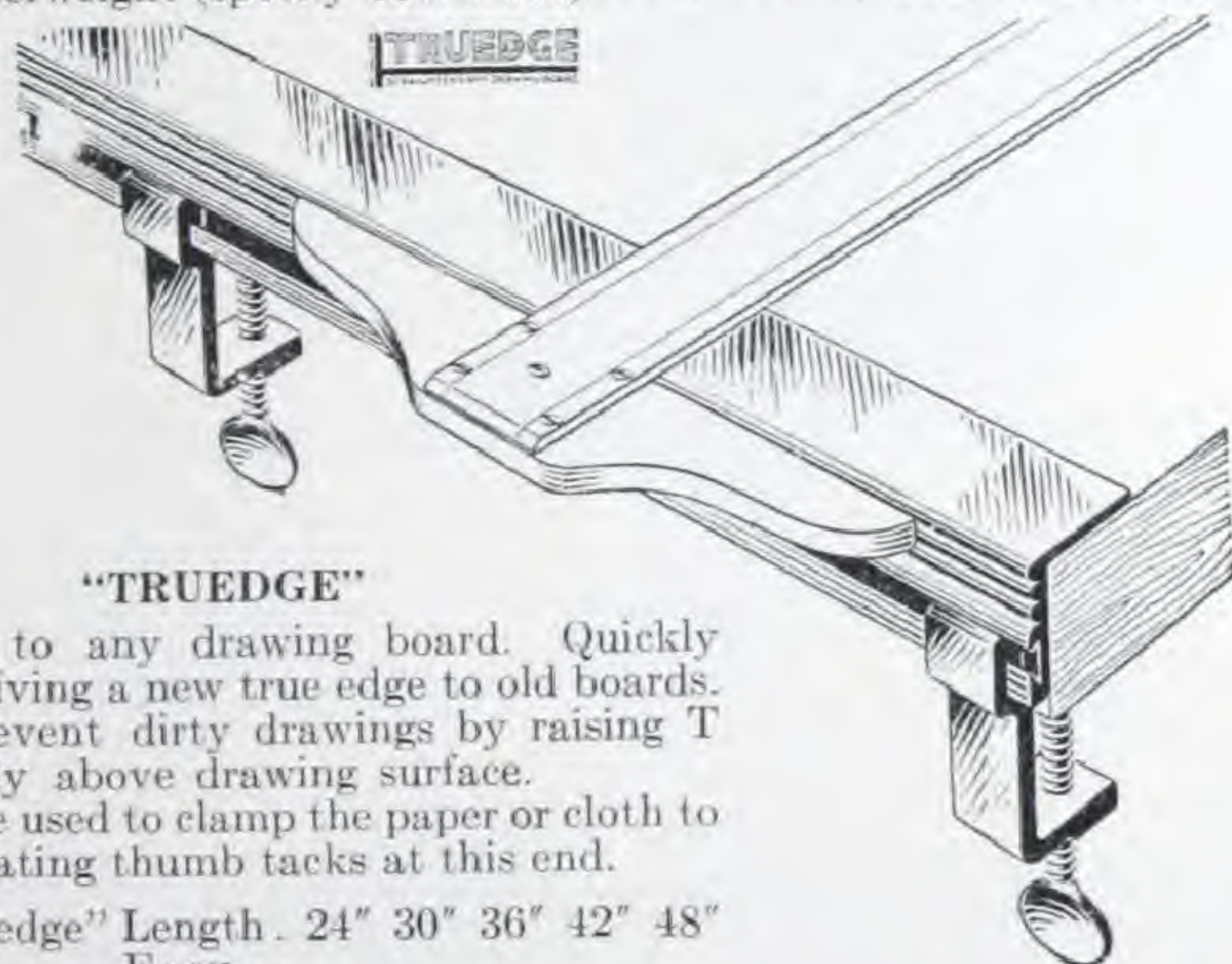
## COUNTERWEIGHT FOR RULING ATTACHMENT



Used on Auto-Shift Tables or vertical boards where full length straightedges are used with Parallel Ruling Attachments.  
A Roller-bearing weight is mounted on a metal rod that always stays true.

EACH

51 Counterweight (specify board size)



Adaptable to any drawing board. Quickly attached. Giving a new true edge to old boards. Helps to prevent dirty drawings by raising True Edge slightly above drawing surface. Can also be used to clamp the paper or cloth to board, eliminating thumb tacks at this end.

152 "Truedge" Length. 24" 30" 36" 42" 48"  
EACH ..

### "NO-INK" DRAFTING BOARD TOPS

A resilient Composition,  $\frac{1}{8}$ " thick, to be glued to the top surface of old drawing boards or tables. Increases density of lines on pencil drawings. Can be furnished for any size board.

153 "No-Ink" Tops

|       |          |          |          |          |
|-------|----------|----------|----------|----------|
| SIZE: | 30 x 42" | 36 x 48" | 36 x 60" | 36 x 72" |
| EACH: |          |          |          |          |

154 "No-Ink" Top Glue

|       |                   |      |       |        |
|-------|-------------------|------|-------|--------|
| SIZE: | $\frac{1}{2}$ Pt. | PINT | QUART | GALLON |
| EACH: |                   |      |       |        |

See Price List Inside Back Cover





## STAMPED STEEL THUMB TACKS



These Stamped Steel Tacks are made of one piece of tough, hard steel (especially made for this purpose) and are of the very best quality. They have needle finished points, so that they make an excellent substitute for the regular thumb tacks, when it is desired to have a lower priced article.

PER BOX OF 100

72161 Stamped Steel Thumb Tacks, flat heads,  $\frac{3}{8}$  inch diameter.

72162 Stamped Steel Thumb Tacks, flat heads,  $\frac{1}{2}$  inch diameter.

## NEEDLE POINT THUMB TACKS



These tacks are of one piece tempered steel. The long sharp "Needle Point" penetrates any wood easily and will not mar.

They are put up 50 tacks to a box.

PER BOX

72163 Needle Point Thumb Tacks,  $\frac{3}{8}$  inch diameter.

72164 Needle Point Thumb Tacks,  $\frac{7}{16}$  inch diameter.

72165 Needle Point Thumb Tacks,  $\frac{1}{2}$  inch diameter.

72166 Needle Point Thumb Tacks,  $\frac{9}{16}$  inch diameter.

## SOLID STEEL THUMB TACKS



These Solid Steel Head Thumb Tacks have a very thin and strong head, so constructed as to prevent the pin from pulling out or pushing through. They are neat in appearance and very durable.

PER BOX  
OF 100

72167 Solid steel, round heads,  $\frac{3}{8}$  inch diameter.

72168 Solid steel, round heads,  $\frac{7}{16}$  inch diameter.

72169 Solid steel, round heads,  $\frac{1}{2}$  inch diameter.



## TWISTOUT-TACKS

PER BOX

721610 Twistout Thumb Tacks, 12 to Box.

See Price List Inside Back Cover



## BOSTITCH TACKER

The best Tacker for fastening paper and cloth to drawing boards. Simple and easy to operate . . . free from jams. Taks 210 staples with  $\frac{1}{4}$ " legs.



EACH

- 2171 Bostitch Tacker . . . . .  
2172 Bostitch Staples, 5000 to box . . . . .

## STAPLING MACHINES

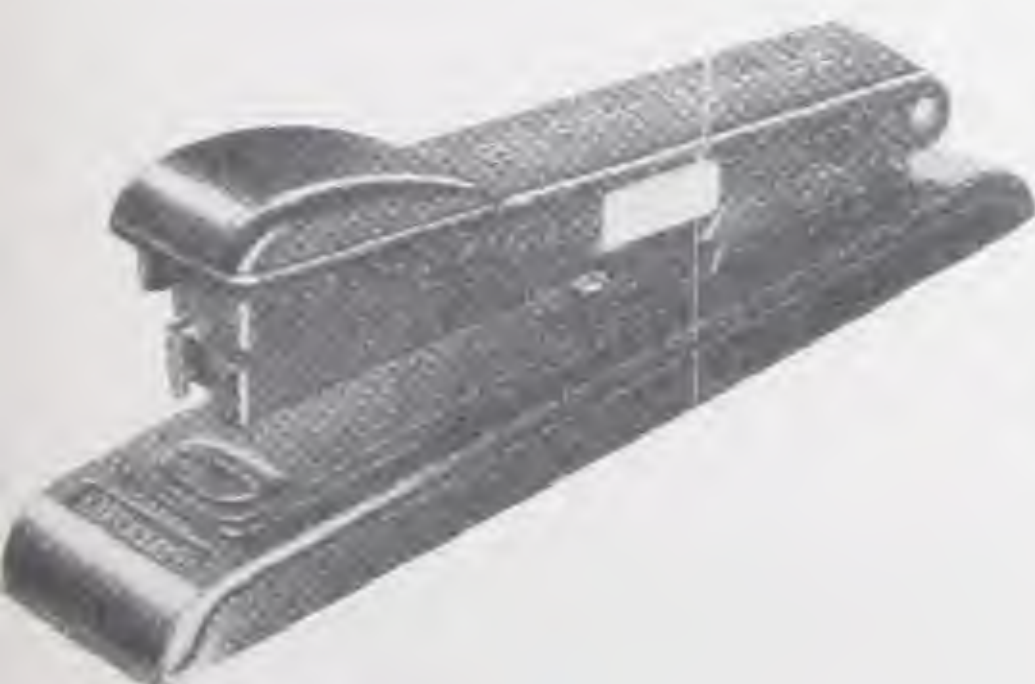
It Staples . . . It Pins . . . It Tacks

Combination Stapler and Tack-  
er. For stapling blueprints,  
records and office papers. Sub-  
stantially built, using staples  
with  $\frac{1}{4}$ " legs.



EACH

- 2173 Bostitch Stapler . . . . .  
2174 Bostitch Staples, 5,000 to box . . . . .



A smaller size combination Stapler  
and Tacker small enough to carry in vest  
pocket, yet strong enough for any stapling  
job.

EACH

- 2175 Bostitch Stapler . . . . .  
2176 Bostitch Staples, 5,000 to box . . . . .

*See Price List Inside Back Cover*





## BRASS THUMB TACKS

### STEEL POINTS SWAGED—ONE DOZEN ON A BLOCK

A hand-made Thumb Tack. Made of brass with beveled heads, with steel point swaged into head . . . cannot loosen or push back through head.



Beveled Heads

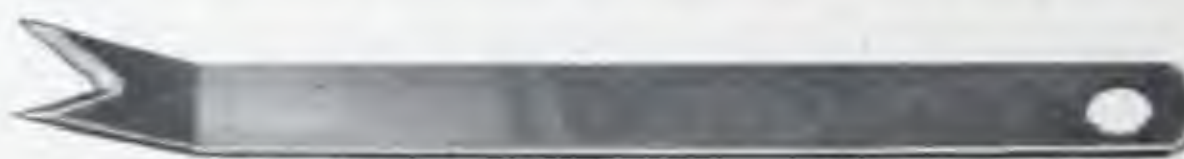
|       |                              | PER GROSS | PER DOZ. |
|-------|------------------------------|-----------|----------|
| 72181 | $\frac{3}{8}$ inch diameter  |           |          |
| 72182 | $\frac{7}{16}$ inch diameter |           |          |
| 72183 | $\frac{1}{2}$ inch diameter  |           |          |
| 72184 | $\frac{5}{8}$ inch diameter  |           |          |

## ALTENEDER'S GERMAN SILVER THUMB TACKS

These Thumb Tacks are thoroughly well made. The steel pins are of proper length and thickness and are screwed into the heads and warranted not to come out. Packed one dozen on a block.

|       |                                                           | PER DOZ. |
|-------|-----------------------------------------------------------|----------|
| 72185 | German silver, beveled heads, $\frac{3}{8}$ inch diameter |          |
| 72186 | German silver, beveled heads, $\frac{1}{2}$ inch diameter |          |
| 72187 | German silver, beveled heads, $\frac{5}{8}$ inch diameter |          |

## THUMB TACK LIFTERS



|       |                                                         | EACH |
|-------|---------------------------------------------------------|------|
| 72188 | Steel, nickel-plated, with flange, holding tacks secure |      |

## LEAD PENCIL FILE

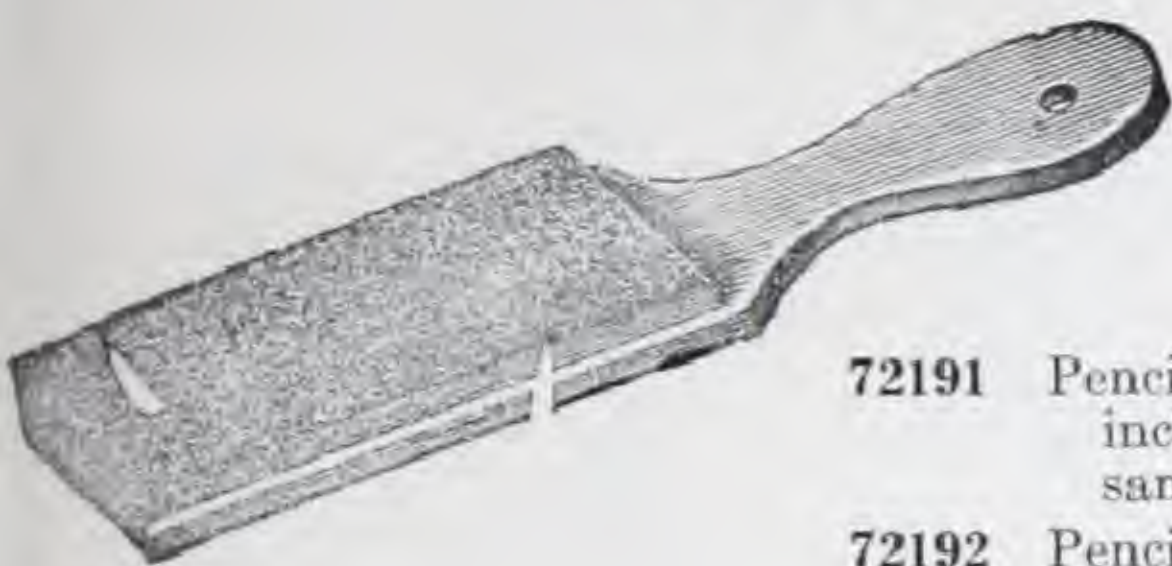


|       |                                            | EACH |
|-------|--------------------------------------------|------|
| 72189 | Lead Pencil File and Tack Lifter, 6 inches |      |

See Price List Inside Back Cover



## PENCIL POINTERS



These pencil pointers consist of sheets of flint paper made into a block.

EACH PER DOZEN

72191 Pencil Pointer,  $1\frac{1}{4}$  x 6 inches, with handle, sand paper . . . . .

72192 Pencil Pointer,  $1\frac{1}{4}$  x 6 inches, with handle, emery paper . . . . .

## REFILLABLE PENCIL POINTERS

A Pencil Pointer and felt Point Wiper in a single renewable unit. Each abrasive refill has a felt point wiper attached to remove surplus graphite from the pencil point. They are both replaced by merely sliding a new refill on the holder. The polished wood holder is 6" x 1" and furnished with one extra refill.



(Patented)

EACH Doz.

72193 Refillable Pencil Pointer . . . . .

72194 Pencil Pointer Refills (10 to envelope) . . . . .

## GITS KNIFE



A handy knife to have around. Convenient to use. Opens with one hand. Press the button on the handle and the blade slides out, and locks automatically in any one of four different exposed lengths. Use as an eraser and pencil sharpener. Replaceable stainless steel blade.

EACH

72195 Gits Knife . . . . .

## STEEL ERASERS



EACH

72196 Steel Eraser, with long blade, coco handle, Domestic . . . . .



EACH

72197 Steel Eraser, with short blade, coco handle, Domestic . . . . .

See Price List Inside Back Cover



## HORN CENTERS



EACH

- 72201 Horn Center, plain,  $\frac{1}{2}$  inch diameter.  
 72202 Horn Center, with German silver rim,  $\frac{3}{4}$  inch diameter.  
 72203 Center Tack, Nickel Silver, Steel Point.

## EYE SHADES



EACH

- 72204 The Eureka Eye Shade.  
 An adjustable Eye Shade, leatherette bound, transparent and very light in weight.  
 72205 Featherweight Eye Shades, opaque or transparent.

## PAPER WEIGHTS



EACH

- 72206 Shot Paper Weight, 5 inch diameter, finished leather covered, approximately 3 pounds.  
 72207 Metal Paper Weight, 3 inch diameter, with Knob, Felt bottom, approximately 1 pound.

See Price List Inside Back Cover



## PAPER FASTENERS



Natural Sizes

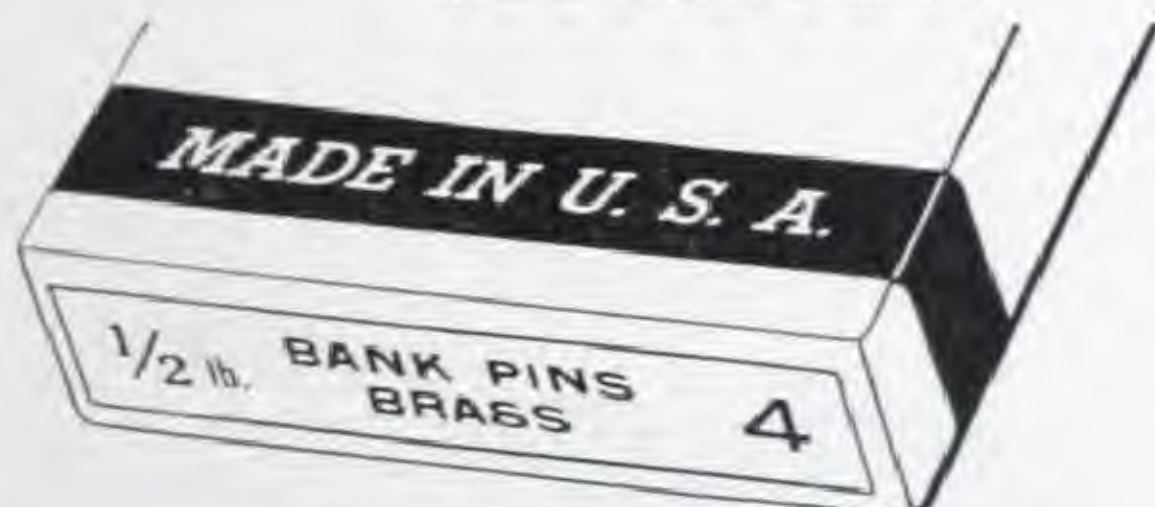
- |     |                                             |               |               |               |   |         |
|-----|---------------------------------------------|---------------|---------------|---------------|---|---------|
| 101 | Paper Fasteners, round heads (100 to box)   | 1             | 2             | 3             | 4 | PER BOX |
|     | Length of shanks, inches                    | $\frac{1}{4}$ | $\frac{1}{2}$ | $\frac{3}{4}$ | 1 |         |
| 102 | Washers 100 to box                          |               |               |               |   | PER BOX |
| 103 | No. 0B, O. K. Paper Fasteners, 100 in a box |               |               |               |   |         |
| 104 | No. 1B, O. K. Paper Fasteners, 100 in a box |               |               |               |   |         |
| 105 | No. 2B, O. K. Paper Fasteners, 100 in a box |               |               |               |   |         |



PER BOX

- |     |                                                             |
|-----|-------------------------------------------------------------|
| 106 | Gem Paper Clips, Riffled, $1\frac{3}{8}$ " long, 100 in box |
| 107 | Gem Paper Clips, Plain, $1\frac{3}{8}$ " long, 100 in box   |

## OFFICE PINS



PER BOX

- |     |                                    |
|-----|------------------------------------|
| 108 | Office Pins, $\frac{1}{2}$ lb. box |
|-----|------------------------------------|

## ARKANSAS OIL STONES

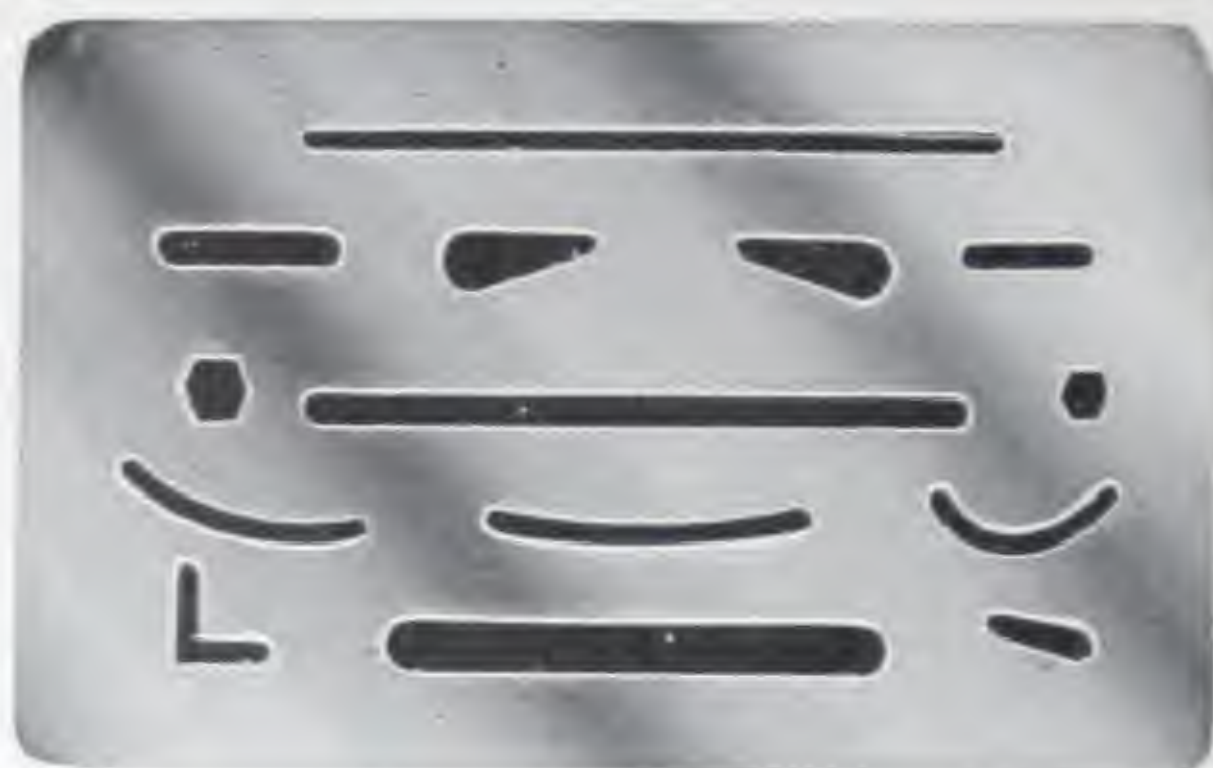


EACH

- |     |                                                                                                                                                |                         |                         |              |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------|--------------|
| 109 | Arkansas Oil Stone, wedge shape slip, 3 to $4\frac{1}{2}$ inches long, $\frac{3}{4}$ to 1 inch wide, $\frac{1}{8}$ to $\frac{1}{4}$ inch thick |                         |                         |              |
| 110 | Arkansas Oil Stones, mounted in hardwood case, with cover. SIZE, INCHES                                                                        | $3\frac{1}{2} \times 1$ | $4 \times 1\frac{1}{2}$ | $5 \times 2$ |
|     | EACH                                                                                                                                           |                         |                         |              |

See Price List Inside Back Cover





### ERASING SHIELDS

- |                                              |      |      |
|----------------------------------------------|------|------|
|                                              | DOZ. | EACH |
| 72221 Steel Erasing Shield (Allegheny Steel) |      |      |

### STEEL SPRING CLIPS

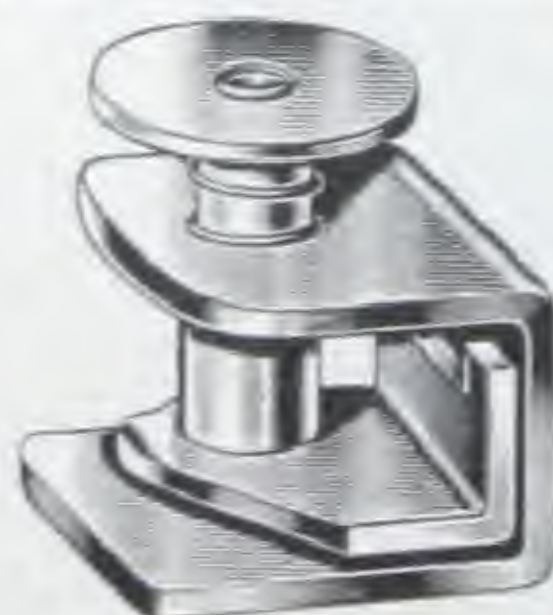


- |                                          |       |       |       |   |   |
|------------------------------------------|-------|-------|-------|---|---|
| 72222 Steel Spring Clips. Length, inches | 1 1/4 | 2 1/4 | 2 1/2 | 3 | 5 |
| PER DOZEN                                |       |       |       |   |   |

### EYELET PRESS AND PUNCH



- |                                                    |      |
|----------------------------------------------------|------|
| 72223 "Triumph" Eyelet Press and Punch             | EACH |
| 72224 Eyelets, 250 to box                          |      |
| 72225 Gummed Reinforcements, 1/4" hole, 100 to box |      |



### PRESTO PAPER PUNCH

**A Handy, Practical Punch for Students and Engineers**

Sturdily constructed, Presto will last indefinitely, as there is nothing to get out of order. Punches a standard 1/4 inch hole placed automatically 1/4 inch from edge of paper. Cuts a neat, uniform hole and saves time. Easy to operate.

- |                          |      |
|--------------------------|------|
| 72226 Presto Paper Punch | EACH |
|--------------------------|------|

See Price List Inside Back Cover



SCOTCH DRAFTING TAPE

(REQUIRES NO MOISTENING)



Draftsmen will welcome **Scotch Drafting Tape** as the most efficient means of holding tracing cloth or paper to the drawing board because—

Its use permits sliding T squares and triangles over the drawing without interference of thumb tacks, and prevents tearing of paper and edge curling.

It is quickly and easily removed and will not leave a stain or residue. It can be applied over and over again on drawing paper, tracing cloth and vellum, and when the work is finished, and the tape is removed, the surface is left clean and free as before the tape was applied.

- 231

10-yard roll,  $\frac{3}{4}$ -inch wide

232

60-yard roll, 1-inch wide
- EACH

SCOTCH EDGING MACHINES



A new, fast, economical way to apply protective edges to valuable Tracings, Drawings, Maps, Plats and Quartersections, City, County, and State records, etc.

The new Scotch Edger is a very efficient low-priced unit for applying Scotch Cellulose Edging Tape made especially for this purpose.

Scotch Edging Tape seals without water or heat, will not buckle, curl or shrink, and is not affected by the heat in printing machines.

- 233

Scotch Edging Machine, for  $\frac{3}{8}$ " tape

234

Scotch Edging Machine, for  $\frac{1}{2}$ " tape

235

Scotch Edging Tape  $\frac{3}{8}$ " x 72 yds

236

Scotch Edging Tape  $\frac{1}{2}$ " x 72 yds
- EACH

See Price List Inside Back Cover





## SCOTCH CELLULOSE TAPE

(TRANSPARENT)

Requires no moistening. Fully transparent. Seals instantly with light pressure. Excellent for mending torn tracings, prints, maps, etc., or holding copy to bulletin board, window posters or sealing packages.



EACH

- 722401 Scotch Cellulose Tape,  $\frac{1}{2}$ " wide, 72 yds. long, on 3" core .....
- 722402 Scotch Cellulose Tape,  $\frac{3}{4}$ " wide, 72 yds. long, on 3" core .....
- 722403 Scotch Cellulose Tape, 1" wide, 72 yds. long, on 3" core .....
- 722404 Scotch Cellulose Tape,  $\frac{1}{2}$ " wide, 36 yds. long, on 1" core .....
- 722405 Scotch Cellulose Tape,  $\frac{3}{4}$ " wide, 36 yds. long, on 1" core .....
- 722406 Scotch Cellulose Tape,  $\frac{1}{2}$ " wide, 22 yds. long, on 1" core .....
- 722407 Scotch Cellulose Tape,  $\frac{3}{4}$ " wide, 22 yds. long, on 1" core .....

### HANDY REFILLABLE DISPENSERS FOR USE WITH CELLULOSE TAPES



Made in three sizes to accommodate any size roll of tape listed above. The heavy duty size will take any of the 72-yard rolls and has rubber cushion feet.

The Desk Type is refillable with 36 or 22-yard rolls, has felt-covered base.

The Hand Dispenser is brown plastic and will hold either 36 or 22-yard rolls.

EACH

- 722408 Heavy Duty Dispenser .....
- 722409 Desk Dispenser .....
- 722410 Hand Dispenser .....

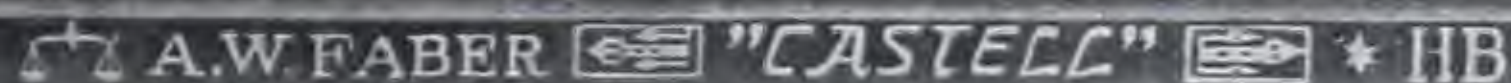
Write for Quantity Discounts

See Price List Inside Back Cover



## PENCILS

### CASTELL



PER GROSS PER DOZ.

- 51 **Castell Drawing Pencils**, hexagon, green polish, gold stamped. In 17 degrees as follows: 6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H, 7H, 8H and 9H. In metal box containing one dozen pencils.

PER GROSS PER DOZ.

- 52 **Winner Drawing Pencils**, (A. W. Faber) hexagon, green polish, gold stamped. In 17 degrees from 6B to 9H.

### KOH-I-NOOR



PER GROSS PER DOZ.

- 53 **Koh-i-noor Drawing Pencils**, hexagon, yellow polish, gold stamped. In 17 degrees as follows: 6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H, 7H, 8H and 9H.

### ELDORADO



PER GROSS PER DOZ.

- 54 **Eldorado Drawing Pencils**, hexagon, yellow polish, gold stamped. In 17 degrees as follows: 6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H, 7H, 8H and 9H.

### TURQUOISE



PER GROSS PER DOZ.

- 55 **Turquoise Drawing Pencils**, hexagon, turquoise polish, gold stamped. In 17 degrees as follows: 6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H, 7H, 8H and 9H.

### VAN DYKE



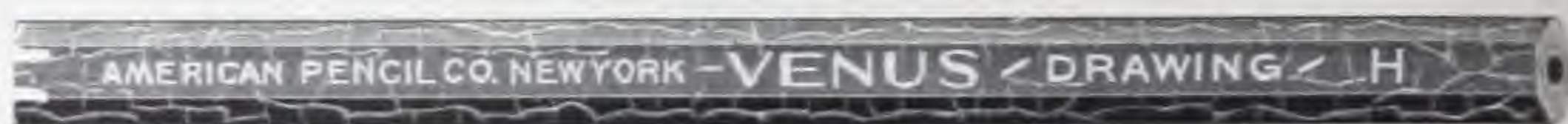
PER GROSS PER DOZ.

- 56 **Van Dyke Drawing Pencils**, hexagon, yellow polish, gold stamped. In 17 degrees as follows: 6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H, 7H, 8H and 9H.

See Price List Inside Back Cover

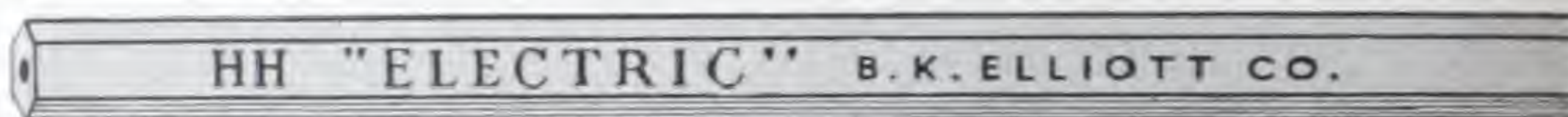


**PENCILS**  
**VENUS**



- |       |                                                                                                                                                                            |           |          |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|
|       |                                                                                                                                                                            | PER GROSS | PER DOZ. |
| 72261 | Venus Drawing Pencils, hexagon, dark green polish, variegated, gold stamped. In 17 degrees as follows: 6B, 5B, 4B, 3B, 2B, B, HB, F, H, 2H, 3H, 4H, 5H, 6H, 7H, 8H and 9H. |           |          |

**ELECTRIC**



- |       |                                                                                                                                                                                                                        |           |          |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|
|       |                                                                                                                                                                                                                        | PER GROSS | PER DOZ. |
| 72262 | Electric Pencils. An exceptionally good drawing pencil. Used by Architects, Mechanical Draftsmen, Colleges and Schools. Hexagon, yellow finish, gold stamped. In 8 degrees as follows: 2B, B, HB, F, H, 2H, 3H and 4H. |           |          |

**RUBBER TIPPED PENCILS**  
For Field and Office Use  
**TICONDEROGA**



- |       |                                                                                                                                                           |           |          |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|
|       |                                                                                                                                                           | PER GROSS | PER DOZ. |
| 72263 | Ticonderoga Pencils, hexagon, yellow finish, red eraser. In 5 degrees as follows: No. 1 very soft, No. 2 soft, No. 2 5/10 firm, No. 3 medium, No. 4 hard. |           |          |

**COPYING PENCILS**



- |       |                                              |           |          |
|-------|----------------------------------------------|-----------|----------|
|       |                                              | PER GROSS | PER DOZ. |
| 72264 | Castell Copying Pencils, Black (medium hard) |           |          |
| 72265 | Castell Copying Pencils, Red                 |           |          |
| 72266 | Castell Copying Pencils, Blue                |           |          |
| 72267 | Castell Copying Pencils, Green               |           |          |
| 72268 | Castell Copying Pencils, Yellow              |           |          |



- |       |                                                       |           |          |
|-------|-------------------------------------------------------|-----------|----------|
|       |                                                       | PER GROSS | PER DOZ. |
| 72269 | Mephisto Copying Ink Pencils, No. 73B, violet, round. |           |          |

*See Price List Inside Back Cover*



## ALTENEDER DRAFTSMAN'S AND ARTISTS'S PENCIL

While this pencil is designed primarily for the draftsman and artist, the long, sturdy lead afforded, and the ease with which it is gripped, make it an ideal pencil for writing.

### Construction

**BARREL:** It is made of Snake-wood with natural finish. The lead chamber extends the entire length, permitting the use of standard leads five inches in length.

**CHUCK:** This part is made of steel, hardened and tempered. Three jaws provide straight clamping surface, preventing breakage of leads.

**CLAMP:** The clamp is knurled to provide a grip when clamping or releasing leads. It is made of stainless steel.

**GRIP:** This part is grooved in two directions, affording a firm, easy grip and preventing the pencil from turning while in use. It is made of stainless steel.

**ERASER FERRULE:** The ferrule is made of stainless steel. Pencils are also furnished with colored composition caps in place of the eraser ferrule.

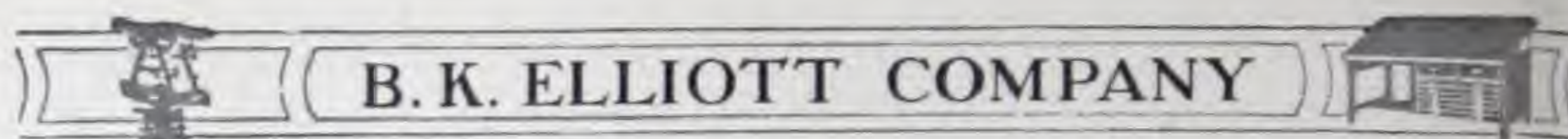
The lead repointer provides a conical point in a few seconds. Repointer blades are interchangeable and can conveniently be replaced when dull.



- |                                                                                                                           |          |
|---------------------------------------------------------------------------------------------------------------------------|----------|
|                                                                                                                           | EACH     |
| 72271 Single Pointed Pencil with detachable pocket clip. . . . .                                                          |          |
| 72272 Double Pointed Pencil furnished with an Altener Needle Point in one end . . . . .                                   |          |
| 72273 Single Pointed Pencil with colored composition cap and detachable pocket clip. (White, black, red, blue, or green.) |          |
| 72274 Extra clamps. . . . .                                                                                               |          |
| 72275 Altener's Lead Repointer. . . . .                                                                                   |          |
| 72276 Replacement Knives for Repointer. . . . .                                                                           |          |
|                                                                                                                           | PER DOZ. |
| 72277 Erasers. . . . .                                                                                                    |          |

*See Price List Inside Back Cover*





## DRAFTSMAN'S AND ARTIST'S PENCIL

### CASTELL LOCKTITE



Castell Locktite Pencils have an exclusive self-locking clutch which holds the lead without slipping. The collet supports the lead all the way around, thus preventing breakage. Merely press the button to release and adjust the lead. Made of rich green-colored plastic, each pencil is marked in degrees from B to 9H.

EACH DOZEN

72281 Locktite Pencils .....

### COLOR LOCKTITE PENCILS

Same construction as No. 72281 except barrels are colored to correspond with colored lead used. Winner colored leads are same length and diameter as black refill leads.

EACH DOZEN

72282 Red Locktite Pencils .....  
72283 Blue Locktite Pencils .....  
72284 Green Locktite Pencils .....  
72285 Yellow Locktite Pencils .....  
72286 Orange Locktite Pencils .....  
72287 Carmine Locktite Pencils .....  
72288 White Locktite Pencils .....

### TURQUOISE LEAD HOLDERS



Turquoise Lead Holders have accurately machined lead grip that grasps the lead like a jeweler's chuck. It grips the lead securely yet will not shear it off. Barrel is aluminum finished Turquoise Blue. Grade Indicator can be set to show degree of lead used.

EACH DOZEN

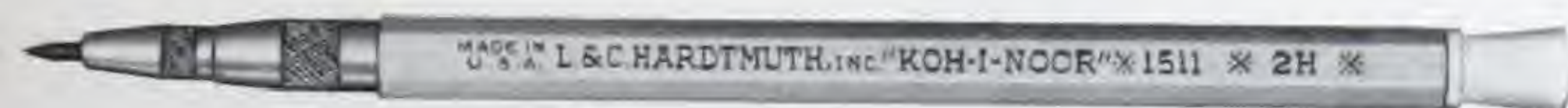
72289 Turquoise Lead Holder .....

*See Price List Inside Back Cover*



# DRAFTSMAN'S AND ARTIST'S PENCIL

## KOH-I-NOOR ARTISTS' PENCILS



**Koh-I-Noor Artist Pencils**, 6 $\frac{1}{4}$ " long. Stainless steel screw points. White, Red or Green plastic tips to designate degrees. Two Models, to hold 6B to 2B and B to 9H respectively.

EACH DOZEN

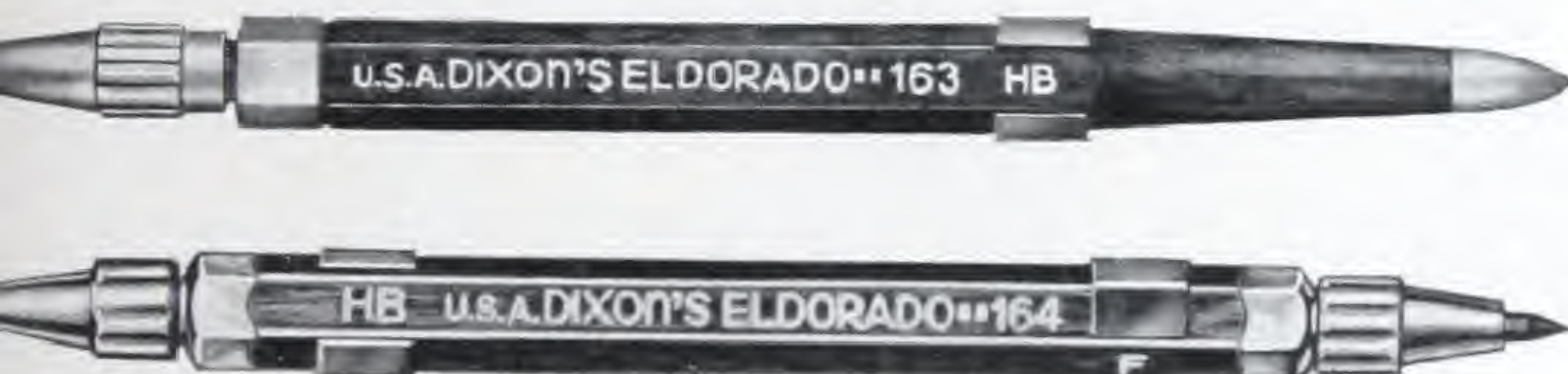
91 **Koh-I-Noor Artist Pencils** .....

**Koh-I-Noor Artist Pencils, Double End**. 6 $\frac{3}{4}$ " long. Stainless Steel screw points. Hexagon, yellow polished.

EACH DOZEN

92 **Koh-I-Noor Double End Pencil** .....

## ELDORADO REFILL DRAWING PENCILS



**Eldorado Refill Drawing Pencils**, Single or Double Pointed. Very light in weight. The body is of wood, finished mahogany. Fluted grips, and positive clutch mechanism.

EACH DOZEN

93 **Eldorado Refill Pencil, Single End** .....

94 **Eldorado Refill Pencil, Double End** .....

## VENUS ARTIST PENCIL



**Venus Artist Pencil** is designed to provide slip-proof and crush-proof gripping of lead. Has a concealed patented clutch, preventing lead breakage.

EACH DOZEN

95 **Venus Artist Pencil** .....

*See Price List Inside Back Cover*

~~~~~ [ PAGE 229 ] ~~~~~


REFILL LEADS

All leads listed are of the same high quality and grading as the pencil listed on pages 228 and 229. All leads are $5\frac{1}{8}$ inches long, and of uniform diameter to fit any of the Draftsman's and Artist's Pencils.

WINNER TECHNOTONE LEADS



- | | | |
|-------|--|----------------------------|
| | | PER TUBE PER DOZ. TUBES |
| 72301 | Winner Leads, 15 Degrees: 4B to 9H, 12 leads in plastic tube | |



WINNER TECHNOTONE COLORED LEADS

Same length and diameter as black refill leads. They are exceptionally strong and will not break under normal pressure. Made in Red, Blue, Green, Yellow, Orange, Carmine and White. Packed 1 dozen in plastic tube.

- | | | |
|-------|-------------------------------------|---------------------|
| | | TUBE DOZEN TUBES |
| 72302 | Winner Colored Leads, specify color | |

KOH-I-NOOR REFILL LEADS



- | | | |
|-------|--|---------------------------|
| | | PER BOX PER DOZ. BOXES |
| 72303 | Koh-I-Noor Refill Leads, seventeen degrees, 6B to 9H. Six leads in box, twelve boxes to carton | |

EAGLE TURQUOISE LEADS



- | | | |
|-------|---|---------------------------|
| | | PER BOX PER DOZ. BOXES |
| 72304 | Turquoise Leads, 12 degrees: 4B to 6H, 6 leads to box, 12 boxes to carton | |

See Price List Inside Back Cover

REFILL LEADS

ELDORADO REFILL LEADS



PER BOX PER DOZ. BOXES

- 311 **Eldorado** Leads, 12 degrees: 2B to 8H. 6 leads to box, 12 boxes to carton

VENUS REFILL LEADS



PER BOX PER DOZ. BOXES

- 312 **Venus** Leads, 16 degrees: 5B to 9H. 6 leads to box, 12 boxes to carton

AUTOMATIC PENCILS

NORMA

The instant 4-color Pencil. Writes Black, Red, Blue or Green at will. Mechanism fully guaranteed. **Norma** has a large replaceable eraser, and a magazine with a reserve 12 assorted leads.



EACH

- 313 **Norma** Pencil, Chrome Finish.
 314 **Norma** Pencil, Monel Metal.
 315 **Norma** Pencil, 10K Gold Plate.

See Price List Inside Back Cover

PENCILS

HARDTMUTH HOLDERS

EACH

- 723201 Holder. Holds large oversize leads $7/32"$ diameter. Hexagon, Red Polish, with Black Tip. Nickel-plated metal grip.
- 723202 Holder. Same as above, but with two points.

NEGRO LEADS

- 723203 Negro Leads are also available in No. 1 and No. 2 degrees for those who prefer this well known article in this form. They fit the Hardtmuth Holder 723201.
- EACH PER BOX OF SIX

SANGUINE LEADS

- 723204 Sanguine Leads. These leads are made of the same material used in the Sanguine Pencil and Sanguine Sticks. Fits the Hardtmuth Holder 723201.
- EACH PER BOX OF SIX

BLACK GRAPHITE LEADS

- 723205 Black Graphite Leads are used for sketching and for covering large surfaces. Made in 3 degrees: 2B, 4B, 6B. Will fit the Hardtmuth Holder 723201.
- EACH PER BOX OF SIX

ARTIFICIAL CHARCOAL

- 723206 Artificial Charcoal. This splendid article will be enthusiastically received. It eliminates the disadvantages of the natural charcoal but retains its advantages. Made in 3 degrees: 1-2-3. They fit the Hardtmuth Holder 723201.
- EACH PER BOX OF SIX

BLAISDELL CHARCOAL PENCIL

- 723207 Blaisdell Charcoal Pencil, paper wrapped. For artists' sketching, shading, etc. 3 degrees: hard, medium, soft.
- EACH PER DOZEN

EAGLE VERIBLACK

- 723208 A freehand drawing and sketching pencil with a large, soft black lead. Encased in wood of medium large diameter in yellow finish.
- EACH PER DOZEN

EBERHARD FABER "EDITOR"

- 723209 Eberhard Faber "Editor", round wood, large diameter soft Graphite Lead for sketching and layout work.
- EACH PER DOZEN

DIXON'S SPECIAL BLACK

- 723210 Round, yellow finish. $11/32"$ diameter, with heavy marking lead. For checking and bold pencil marking.
- EACH PER DOZEN

See Price List Inside Back Cover



AUTOPOINT PENCILS

LIGHT — CONVENIENT — QUICK

No other pencil can be refilled as quickly



Autopoint Pencil with oversize barrel and "diamond cut" cap. Streamlined clip and trim in silvonite finish.

EACH

3301 **Autopoint** Oversize Pencil, for standard lead.

3302 **Autopoint** Oversize Pencil, for "Real Thin" lead.



Autopoint Utility Pencil. Slender barrel with exposed eraser. Streamlined clip, eraser ferrule and tip in silvonite finish.

EACH

3303 **Autopoint** Utility Pencil for standard lead.

3304 **Autopoint** Utility Pencil for "Real Thin" lead.



Autopoint Double-end Pencil. For checking prints, etc. Colored leads can be used in all **Autopoint** Pencils without danger of breakage. Clip and trim in silvonite finish.

EACH

3305 **Autopoint** Double-end Pencil for standard lead.

3306 **Autopoint** Double-end Pencil for "Real Thin" lead.

AUTOPOINT LEADS

EACH

3307 **Autopoint** Lead "Standard," .046" diam. 1 $\frac{3}{8}$ inches long. Black 2B to 4H. 24 leads to tube.

3308 **Autopoint** Lead "Standard" Colored. 1 $\frac{3}{8}$ inches long. Red, Blue, Green and Yellow. 12 leads to tube.

3309 **Autopoint** Lead, "Real Thin," .036" diam. 1 $\frac{3}{8}$ inches long. B to 4H. 24 leads to tube.

3310 **Autopoint** Lead, "Real Thin," Colored. 1 $\frac{3}{8}$ inches long. Red, Blue and Green. 12 leads to tube.

3311 **Autopoint** Erasers, Oversize, tube of 3.

3312 **Autopoint** Erasers, Standard, tube of 4.

See Price List Inside Back Cover

LEADS FOR AUTOMATIC PENCILS



FABER LEADS

PER TUBE
12 LEADS

| | |
|--------|-------------|
| 723401 | Red..... |
| 723402 | Blue..... |
| 723403 | Green..... |
| 723404 | Purple..... |
| 723405 | Yellow..... |
| 723406 | Brown..... |
| 723407 | White..... |

PER TUBE
18 LEADS

- 723408 A. W. Faber Drawing Leads, 1³/₈ inches long, .046 in. diameter, black, in 8 degrees of hardness: 2B to 4H.....

PENCIL LENGTHENERS

(For utilizing short ends of Pencils)



- | | |
|---|--------------|
| | EACH DOZ. |
| 723409 Hexagon, brass, nickel-plated ferrule, threads cut in ferrule..... | |



- | | |
|---|--------------|
| | EACH DOZ. |
| 723410 Fitted with short hexagon, yellow polished pencil..... | |

PENCIL POINT PROTECTORS AND ERASER TIPS



- | | |
|---|---------------|
| | DOZ. GROSS |
| 723411 Pencil Point Protector, with eraser..... | |
| 723412 Rubber Pencil Tip-Wedge-Hexagon Top..... | |



- | | |
|--|---------------|
| | DOZ. GROSS |
| 723413 Combined Erasing Tip and Point Protector..... | |

See Price List Inside Back Cover

PRISMACOLOR COLORED PENCILS

ROUND SHAPE



Prismacolor Pencils are made in 36 glowing colors that are light-resistant, waterproof, smooth and strong. Can be furnished in sets or individual colors.

| | | | |
|-----|---------------|-----|--------------|
| 901 | Indigo Blue | 924 | Crimson Red |
| 902 | Ultramarine | 925 | Crimson Lake |
| 903 | True Blue | 926 | Carmines Red |
| 904 | Light Blue | 929 | Pink |
| 905 | Aquamarine | 930 | Magenta |
| 908 | Dark Green | 931 | Purple |
| 909 | Grass Green | 932 | Violet |
| 910 | Emerald Green | 935 | Black |
| 911 | Olive Green | 936 | Dark Grey |
| 912 | Apple Green | 937 | Light Grey |
| 915 | Lemon Yellow | 938 | White |
| 916 | Canary Yellow | 939 | Flesh |
| 917 | Yellow Orange | 942 | Yellow Ochre |
| 918 | Orange | 943 | Burnt Ochre |
| 921 | Vermilion Red | 944 | Terra Cotta |
| 922 | Scarlet Red | 945 | Sienna Brown |
| 923 | Scarlet Lake | 946 | Dark Brown |

EACH DOZEN GROSS

| | | |
|------|--|---------|
| 2351 | Prismacolor Colored Pencils | PER SET |
| 2352 | Prismacolor Colored Pencils, 12 to set | |
| 2353 | Prismacolor Colored Pencils, 24 to set | |
| 2354 | Prismacolor Colored Pencils, 36 to set | |

VERITHIN COLORED PENCILS



Hexagon shaped, thin lead, colored pencils that are strong and will hold a sharp point. Made in 36 brilliant colors.

| | | | | | |
|------|---------------|------|--------------|------|---------------|
| 734 | White | 740 | Ultramarine | 746½ | Tuscan Red |
| 734½ | Light Grey | 740½ | Sky Blue | 747 | Black |
| 735 | Canary Yellow | 741 | Indigo Blue | 747½ | Dark Grey |
| 735½ | Lemon Yellow | 741½ | Azure Blue | 748 | Red and Blue |
| 736 | Yellow Ochre | 742 | Violet | 750 | Vermilion |
| 736½ | Orange Ochre | 742½ | Lavender | 751 | Emerald Green |
| 737 | Orange | 743 | Pink | 752 | Purple |
| 737½ | Sea Green | 743½ | Rose | 755 | Golden Brown |
| 738 | Grass Green | 744 | Scarlet Red | 756 | Dark Brown |
| 738½ | Light Green | 745 | Carmines Red | 757 | Flesh |
| 739 | Green | 745½ | Terra Cotta | | |
| 739½ | Olive Green | 746 | Sienna Brown | | |

EACH DOZEN GROSS

| | | |
|------|-------------------------------------|---------|
| 2355 | Verithin Colored Pencils | PER SET |
| 2356 | Verithin Colored Pencils, Set of 12 | |
| 2357 | Verithin Colored Pencils, Set of 24 | |

See Price List Inside Back Cover

DIXON'S "BEST" COLORED PENCILS

ROUND SHAPE



36 colors, each pencil finished same color as its lead.

| | | | | |
|-------------------|------------------|-------------------|--------------------|-----------------|
| 352 White | 332 Scarlet Lake | 320 Azure | 325 Olive Green | 342 Raw Umber |
| 353 Lemon Yellow | 321 Lake Red | 328 Paris Blue | 356 May Green | 335 Burnt Ochre |
| 353 Golden Yellow | 322 Pink | 320 Sky Blue | 354 Light Green | 351 Terra Cotta |
| 351 Dark Chrome | 333 Rose Madder | 330 Ultramarine | 354 Green | 335 Sepia |
| 324 Orange | 323 Purple | 350 Blue | 355 Prussian Green | 343 Brown |
| 349 Vermilion | 322 Light Violet | 355 Viridian | 329 Flesh | 352 Gray |
| 321 Carmine | 323 Violet | 325 Verdant Green | 324 Yellow Ochre | 331 Slate Gray |
| | | | | 331 Black |

PER DOZEN PER GROSS

723601 Dixon's "Best" Colored Pencils



Cross Section shows size of lead.

DIXON'S BEST PENCILS IN SETS

PER SET

723602 Set of Seven colors, assorted

723603 Set of Twelve colors, assorted

723604 Set of Twenty-four colors, assorted

723605 Set of Thirty-six colors, assorted

Assortments in cloth-covered slide boxes.

DIXON'S "THIN-EX" CRAYON PENCILS



Hexagon shape. 36 colors. Thin leads.

| | | | | |
|------------------|----------------|------------------|--------------------|------------------|
| 390 White | 370 Red | 422 Light Violet | 389 Apple Green | 428 Raw Umber |
| 374 Lemon Yellow | 383 Scarlet | 377 Violet | 416 May Green | 397 Terra Cotta |
| 373 Yellow | 369 Lake Red | 418 Sky Blue | 414 Viridian | 398 Burnt Sienna |
| 412 Dark Chrome | 426 Tuscan Red | 394 Light Blue | 391 Olive Green | 430 Warm Sepia |
| 388 Gold Ochre | 381 Pink | 393 Azure | 392 Light Green | 378 Brown |
| 372 Orange | 424 Lavender | 420 Paris Blue | 375 Green | 399 Gray |
| 371 Vermilion | 396 Purple | 376 Blue | 380 Prussian Green | 432 Slate Gray |
| | | | | 379 Black |

PER DOZEN PER GROSS

723606 Dixon's "Thin-Ex" Colored Pencils

723607 Set of Seven Colors, assorted

723608 Set of Twelve Colors, assorted

723609 Set of Twenty-four colors, assorted

723610 Set of Thirty-six colors, assorted

PER SET

See Price List Inside Back Cover

PENCILS

VENUS "UNIQUE" COLORED PENCILS

WAX CRAYONS—THIN LEADS



MADE IN FOLLOWING COLORS

| | | | | |
|----------|-------------|---------------|-------------|----------|
| ed* | Violet | Yellow* | Olive Green | Ochre |
| ark Red | Purple* | Chrome Yellow | Field Green | White |
| ermilion | Blue* | Orange* | Brown* | Gray* |
| ink* | Light Blue* | Green* | Sepia | Black |
| auve* | Ultramarine | Light Green | Maroon | Red-Blue |

PER GROSS PER DOZEN

- 2371 "Unique" Colored Pencils.....
- 2372 "Unique" Assortment of 24 colors and Pencil Holder in Box.....
- 2373 "Unique" Assortment of 12 colors, the 11 colors marked with asterisks and 1 combination Red-Blue Pencil in Box.....
- PER SET

SILVER CRAYON PENCILS

The Best Pencil For Marking Blue Prints



PER GROSS PER DOZEN

- 2374 Dixon's Silver Crayon Pencils, for marking on Blue Prints or other dark surfaces

CHINA MARKING PENCILS



Blaisdell China Marking Pencils, for marking on Glass, China, Steel, highly polished Metal, Tile or other highly glazed surfaces.

Made in 12 colors, as follows: Light Blue, White, Crimson Red, Brown, Blue, Midnight Blue, Red, Vermilion Red, Yellow, Green, Purple and Black.

PER GROSS PER DOZEN

- 2375 China Marking Pencils

See Price List Inside Back Cover

DIXON'S LUMBER CRAYON HOLDER



72381

EACH

Doz.

72381 Dixon Lumber Crayon Holder.....



72382

GROSS

Doz.

| | |
|-------|--|
| 72382 | Dixon's Lumber Crayon, blue, hexagon. |
| 72383 | Dixon's Lumber Crayon, red, hexagon. |
| 72384 | Dixon's Lumber Crayon, white, hexagon. |
| 72385 | Dixon's Lumber Crayon, yellow, hexagon. |
| 72386 | Dixon's Lumber Crayon, black, hexagon, extra soft. |



72387

GROSS

Doz.

| | | |
|-------|--|--|
| 72387 | Dixon's Solid Crayons, round, 7 inches long. | Green, black, golden yellow, red and blue. |
| 72388 | Dixon's Solid Crayons, 3½ inches long. | |
| | Burnt Ochre | Orange |
| | Carmine | Azure |
| | Sepia | Purple |
| | Terra Cotta | Yellow Ochre |
| | Green | Lemon Yellow |
| | Black | Gray |
| | Golden Yellow | Olive Green |
| | Red | Ultramarine |
| | Brown | Sky Blue |
| | Blue | White |
| | Violet | Light Green |
| | Pink | Lake Red |



72389

Doz.

EACH

72389 Dixon's Solid Crayon Holder, nickel-plated, 6½ inches, for crayons No. 72387 and 72388.

See Price List Inside Back Cover

PENCILS

"MONGOL" COLORED PENCILS

"Mongol" Colored Pencils can be used for painting with water color effects. To paint with pencils simply needs "Mongols," brush and water.



72391

PER GROSS PER DOZ.

72391 "Mongol" Colored Pencils. Round, thin, colored lead; wood polished to match lead.

MADE IN THE FOLLOWING COLORS

| | | | |
|---------------|---------------|----------------|---------------|
| Burnt Carmine | Light Blue | Prussian Green | Yellow |
| Terra Cotta | Pink | Orange | Dark Green |
| Lemon Yellow | Light Green | Brown | Carmine |
| Grey | Black | Heliotrope | Olive Green |
| White | Brown Ochre | Dark Blue | Vandyke Brown |
| Purple | Prussian Blue | Red | French Green |

"MONGOL" COLORED PENCIL ASSORTMENT

PER BOX

72392 An assortment of 24 colors, of round "Mongol" Colored Pencils in double folding, cloth covered easel box. The box folds to convenient pocket size.



"MONGOL" COLORED PENCIL ASSORTMENT

PER BOX

72393 12 assorted round "Mongol" Colored Pencils, listed below, in handy, folding, cloth covered easel box

| | | |
|-------------|------------|------------|
| Purple | Orange | Red |
| Light Blue | Brown | Yellow |
| Light Green | Heliotrope | Dark Green |
| Black | Dark Blue | Carmine |

See Price List Inside Back Cover

WATER COLOR PENCILS

"ANADEL" INDELIBLE PENCILS

"Anadel" Colored Pencils are hexagonal in shape, rounded edges and "safety" mouthpiece tip. Each pencil is finished same color as its lead.

They are exceptionally strong, brilliant, and are water soluble. Popular for colored writing, checking detail drawings, etc.

You can also paint with "Anadel".



Made in 24 colors, as follows: White, Lemon Yellow, Yellow, Golden Ochre, Orange, Red, Lake Red, Carmine, Pink, Magenta, Violet, Azure, Blue, Indigo, Emerald Green, Green, Forest Green, Olive Green, Neutral Tint, Terra Cotta, Burnt Sienna, Warm Sepia, Brown, Black, Red and Blue.

PER GROSS PER DOZEN

72401 "Anadel" Pencils

PER SET

72402 "Anadel" Pencils, set of 8

72403 "Anadel" Pencils, set of 12

72404 "Anadel" Pencils, set of 24

"VENUS" WATER COLOR PENCILS



To produce wash and water color effects. Apply color evenly. Then go over surface with a moist water color brush. Definite water color lines are obtained by dipping pencil point in water.

COLORS

Purple*, Blue*, Light Blue*, Ultramarine Blue, Green*, Light Green*, Field Green, Red*, Vermilion, Chrome Yellow*, Orange*, Yellow, Black*, Mauve, Gray, Pink*, Heliotrope*, Dark Red, Maroon*, Olive Green, Ochre, Brown, Sepia, White.

PER GROSS PER DOZEN

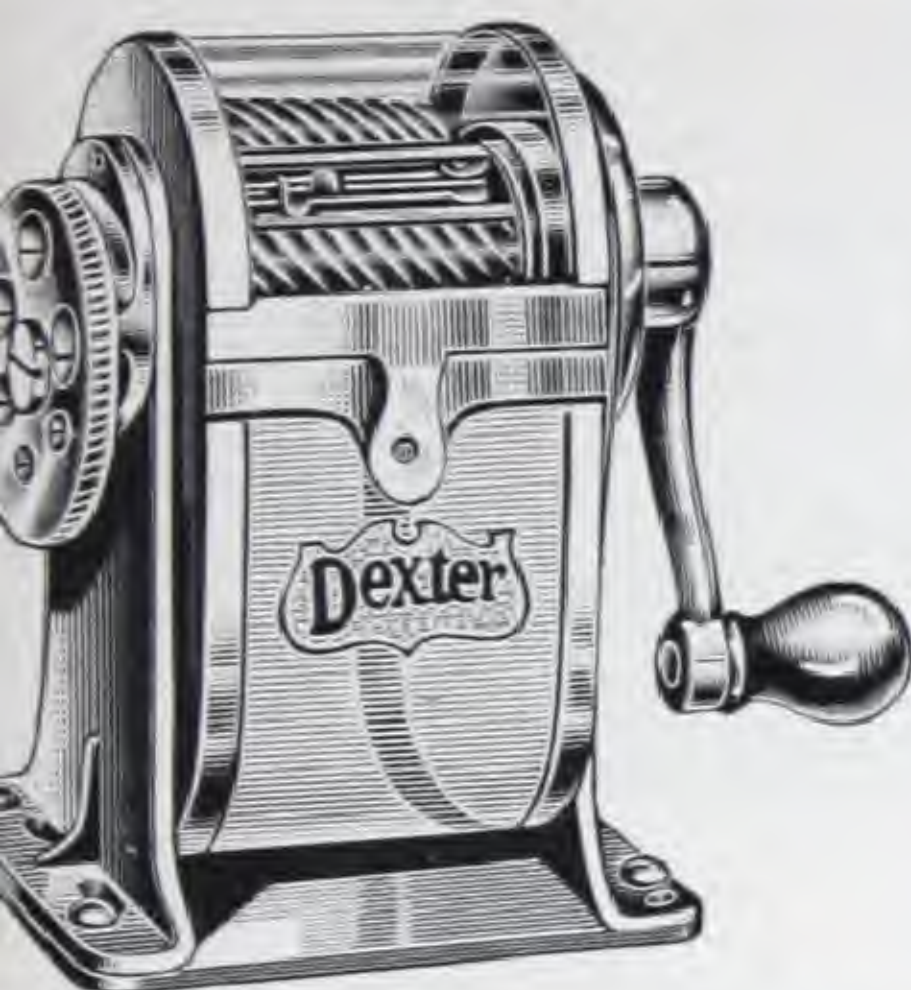
72405 Venus Water Color Pencils

PER SET

72406 Set contains all 24 colors listed above

72407 Set contains 12 colors marked with asterisks. In folding cardboard easel boxes

See Price List Inside Back Cover



PENCIL SHARPENERS



Showing point made with sharpeners Nos. 724102 and 724106 fitted with special draftsman's cutters, removing the wood only from the pencil, leaving the graphite, so that it may be sharpened to suit draftsman.

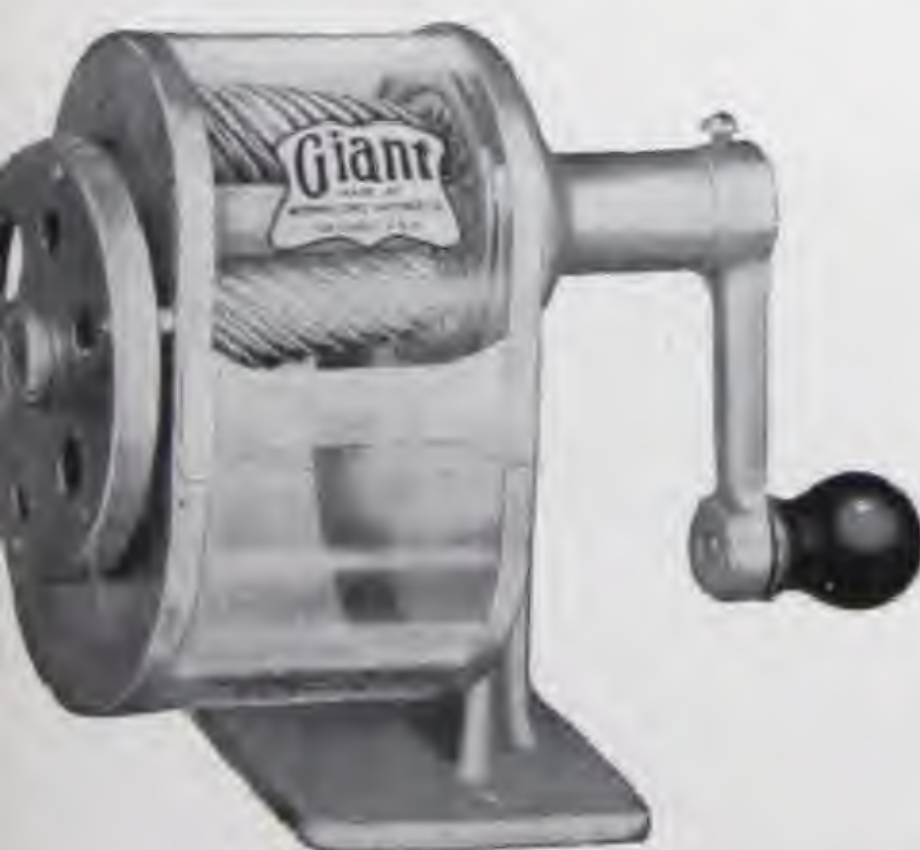
The **Dexter** Pencil Sharpener is of excellent workmanship and finish. Sharpens Lead and Crayon Pencils of all sizes and prevents waste, as the cutting stops when the proper point is obtained. Can be adjusted for any desired point, blunt to fine.

Automatic Lubrication of all working parts. The shaving receptacle is of highly polished celluloid, metal trimmed, locks securely and is easily removed.

- | | | |
|--------|--|------|
| 724101 | Dexter Sharpener with regular cutters..... | EACH |
| 724102 | Dexter Sharpener with draftsman's special cutters..... | |
| 724103 | Extra Cutters for Dexter Regular..... | |
| 724104 | Extra Cutters for Dexter Draftsman's Special..... | |

Premier Sharpener, with Automatic Feed control. Will sharpen all current size pencils or crayons. Furnished with either Regular or draftsman's Cutters.

- | | | |
|--------|---|------|
| 724105 | Premier Sharpener with Regular Cutters..... | EACH |
| 724106 | Premier Sharpener with Draftsman's Cutters..... | |
| 724107 | Extra Cutters for Premier, Regular..... | |
| 724108 | Extra Cutters for Premier, Draftsman's..... | |



Giant Sharpener. Popular and low priced. Accepts all size pencils. Solid steel cutters. Manual feed.

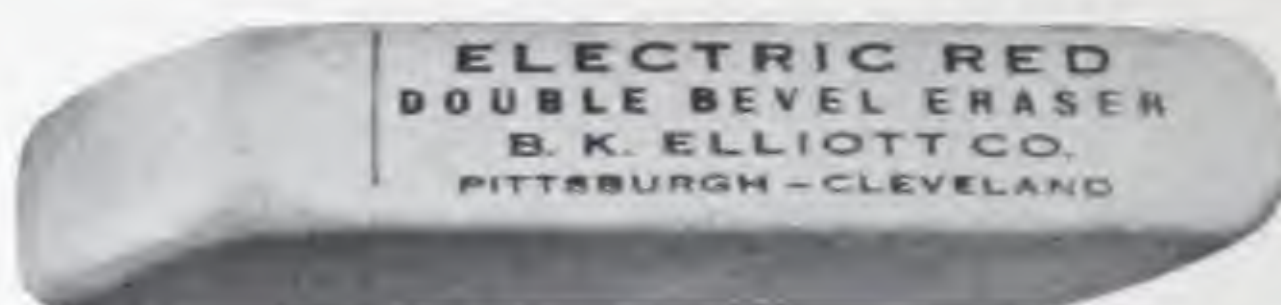
- | | | |
|--------|-------------------------------|----------|
| 724109 | Giant Sharpener..... | EACH |
| 724110 | Cutters for Giant Sharpener.. | PER PAIR |

See Price List Inside Back Cover

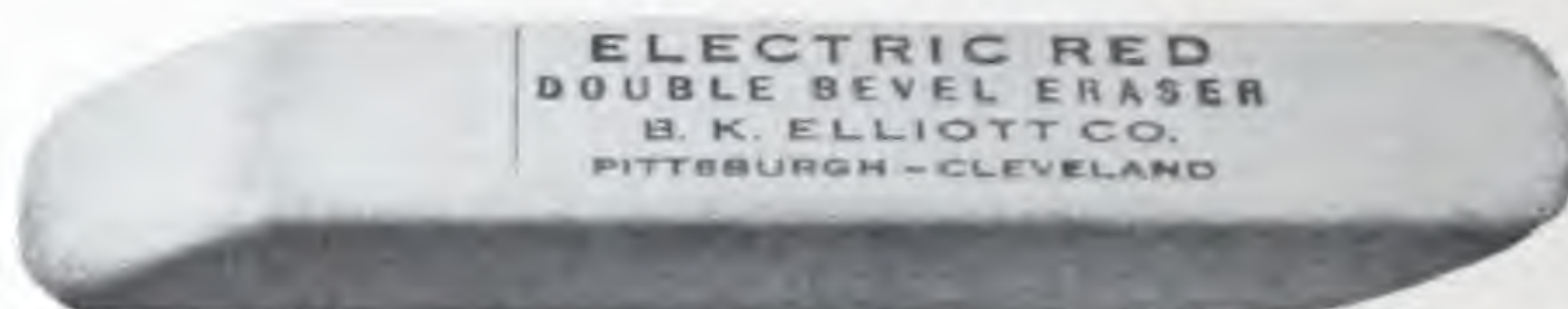
ERASERS

DOUBLE BEVEL PENCIL ERASERS

The Electric Eraser is the best pencil eraser made. Does not smudge.



| | | GROSS | PER DOZ. |
|-------|--|-------|----------|
| 72421 | Electric Red Double Bevel Pencil Erasers | | |



| | | GROSS | PER DOZ. |
|-------|--|-------|----------|
| 72422 | Electric Red Double Bevel Pencil Erasers | | |



| | | GROSS | PER DOZ. |
|-------|--|-------|----------|
| 72423 | E. Faber's "Ruby" Pencil Eraser, red, small | | |
| 72424 | E. Faber's "Ruby" Pencil Eraser, red, large | | |
| 72425 | E. Faber's "Emerald" Pencil Eraser, green, small | | |
| 72426 | E. Faber's "Emerald" Pencil Eraser, green, large | | |



| | | GROSS | PER DOZ. |
|-------|--|-------|----------|
| 72427 | "Carnation" Eraser, large size. The pink of perfection in pencil erasers. Soft and pliable. Packed 1 dozen in box. | | |

See Price List Inside Back Cover

ERASERS

"ELLCOPINK"



"Ellicopink" Erasers are of the softest texture possible, yet they contain abrasive compounds to permit the removal of pencil and crayon marks from drawing, tracing paper and tracing cloth without injury.

EACH DOZ. GROSS

72431 "Ellicopink" Eraser. Medium size, 12 to box

"Parapink"—of soft pliable rubber. Unexcelled for erasing and cleaning on tracing paper or other delicate surfaces. Made in two sizes.



EACH DOZ. GROSS

72432 "Parapink"—Medium size, 12 to box

72433 "Parapink"—Large size, 12 to box



"Pink Pearl." Soft, pink, pliable pencil and cleaning eraser, double beveled. Made in two sizes.

EACH DOZ. GROSS

72434 "Pink Pearl"—Medium size, 24 to box

72435 "Pink Pearl"—Large size, 12 to box

"Rubkleen" rubs clean without smearing. No messy "crumbling". Will not weaken inked lines. Green color, block shape, in two sizes.



DOZ. GROSS

72436 "Rubkleen"—Medium size, 12 to box

72437 "Rubkleen"—Large size, 12 to box

See Price List Inside Back Cover

ERASERS

"TRACINK"

The most efficient ink eraser ever manufactured, especially adapted for the use of draftsmen on tracing cloth. The "Tracink" will make from three to five erasures on the same spot of a tracing and leave the surface of the tracing cloth unimpaired for remarking and the ink will not blot or spread.



- | | EACH | DOZ. | GROSS |
|------------------------------------|------|------|-------|
| 72441 "Tracink" Eraser, large..... | | | |
| 72442 "Tracink" Eraser, small..... | | | |



- | | EACH | DOZ. |
|-------------------------------------|------|------|
| 72443 "Van Dyke" Eraser, small..... | | |
| 72444 "Van Dyke" Eraser, large..... | | |



Illustration
Full Size

Suede—a satisfactory ink eraser for tracing cloth. Soft—of gray rubber.

- | | EACH | DOZ. |
|-----------------------------|------|------|
| 72445 Suede Ink Eraser..... | | |

FYBRGLASS INK ERASER



An efficient eraser, made of fine spun glass with the appearance of white bristle, in a plastic holder. Especially adapted for erasures on tracing cloth.

- | | EACH | DOZ. |
|--|------|------|
| 72446 Fybrglass Ink Eraser..... | | |
| 72447 Fybrglass Ink Eraser Refills (2 in package)..... | | |

See Price List Inside Back Cover

B. K. ELLIOTT COMPANY

ERASERS

An eraser in pencil form, paper wrapped with the popular Blaisdell string-pull for sharpening.



Doz. Gross

- 72451 "Klenzo" Eraser, for ink.
 72452 "New Way" Eraser, for pencil.

Kneaded Rubber, a plastic that can be used over and over again, can be kneaded into any shape. For removing and highlighting chalks, charcoal, etc. Made in two sizes.



EACH BOX OF 36

BOX OF 12

- 72453 Small kneaded rubber.
 72454 Large kneaded rubber.

ART GUM



For cleaning engravings, drawings, paintings, books and papers. Is soft and pliable and entirely free from grit. It wears itself away, but does not mar or scratch the surface of the paper.

EACH Doz

- 72455 Art Gum, 1 x 1 x 1 inches.
 72456 Art Gum, 2 x 1 x 1 inches.
 72457 Art Gum, 2 1/4 x 1 1/8 x 1 1/8 inches.
 72458 Art Gum, 3 x 2 x 1 inches.
 72459 Art Gum, 3 x 3 x 2 inches.

See Price List Inside Back Cover



ERASERS

Erasing Machine Erasers, $\frac{7}{8}$ " long, to fit all makes of Erasing Machines

PER GROSS

- 724601 Soft Pink Erasers
724602 Soft Red Erasers
724603 Soft Gray Erasers

No Muss - No Fuss - Just "Kleenzit"
CLEANER DRAWINGS! SHARPER LINES! BETTER PRINTS!

"Kleenzit" is a drafting powder, specially prepared for making clean, black, sharp-line drawings. No more smearing. No more lifting of T-square, triangles or drafting machine. No more washing of tools. "Kleenzit" keeps them clean.

PER BOX PER DOZ. PER GRO.

- 724604 "Kleenzit"

GRAY RUBBER BANDS



$\frac{1}{16}$ Inch Wide

PER LB. PER $\frac{1}{4}$ LB.

- 724605 Size 8 Gray Rubber Bands, $\frac{7}{8}$ inch long.
724606 Size 10 Gray Rubber Bands, $1\frac{1}{4}$ inches long.
724607 Size 12 Gray Rubber Bands, $1\frac{5}{8}$ inches long.
724608 Size 14 Gray Rubber Bands, 2 inches long.
724609 Size 16 Gray Rubber Bands, $2\frac{1}{2}$ inches long.
724610 Size 18 Gray Rubber Bands, 3 inches long.



$\frac{1}{8}$ Inch Wide

PER LB. PER $\frac{1}{4}$ LB.

- 724611 Size 30 Gray Rubber Bands, 2 inches long.
724612 Size 31 Gray Rubber Bands, $2\frac{1}{2}$ inches long.
724613 Size 32 Gray Rubber Bands, 3 inches long.
724614 Size 33 Gray Rubber Bands, $3\frac{1}{2}$ inches long.



$\frac{1}{4}$ Inch Wide

PER LB. PER $\frac{1}{4}$ LB.

- 724615 Size 62, $\frac{1}{4}$ inch wide x $2\frac{1}{2}$ inches long.
724616 Size 64, $\frac{1}{4}$ inch wide x $3\frac{1}{2}$ inches long.
724617 Rubber Bands, Assorted.

See Price List Inside Back Cover

STEEL PENS

FOR LETTERING AND DRAWING



| 724701 | 724703 | 724704 | 724705 | 724707 | 724709 | 724710 | 724711 | PER
Doz. | PER
GROSS |
|--|--|--|--|--|---|--|---|---|---|
| 724701 | 724702 | 724703 | 724704 | 724705 | 724706 | 724707 | 724708 | 724709 | 724710 |
| Gillott's Crow Quill Pens (659), on cards, with holder | Gillott's Crow Quill Pens (659), loose | Gillott's Crow Quill Pens (850), long shoulder, on cards | Gillott's Drawing Pens (1000), superfine, on cards | Gillott's Lithographic Pens (290), on cards, with holder | Gillott's Lithographing Pens (290), loose, in gross boxes | Gillott's Mapping Pens (291), on cards with holder | Gillott's Mapping Pens (291), loose, in gross boxes | Gillott's Mapping Pens (170), loose, in gross boxes | Gillott's Mapping Pens (303), loose, in gross boxes |
| | | | | | | | | | Gillott's Mapping Pens (404), loose, in gross boxes |



724712

| 724712 | Crow Quill Pen, with improved holder, having cork finger-piece, 12 pens on card, each with holder | EACH | PER
CARD |
|--------|---|------|-------------|

PENHOLDERS



724713

| 724713 | Penholder, ebony, for crow quill pens | EACH | PER
Doz. |
|--------|---------------------------------------|------|-------------|



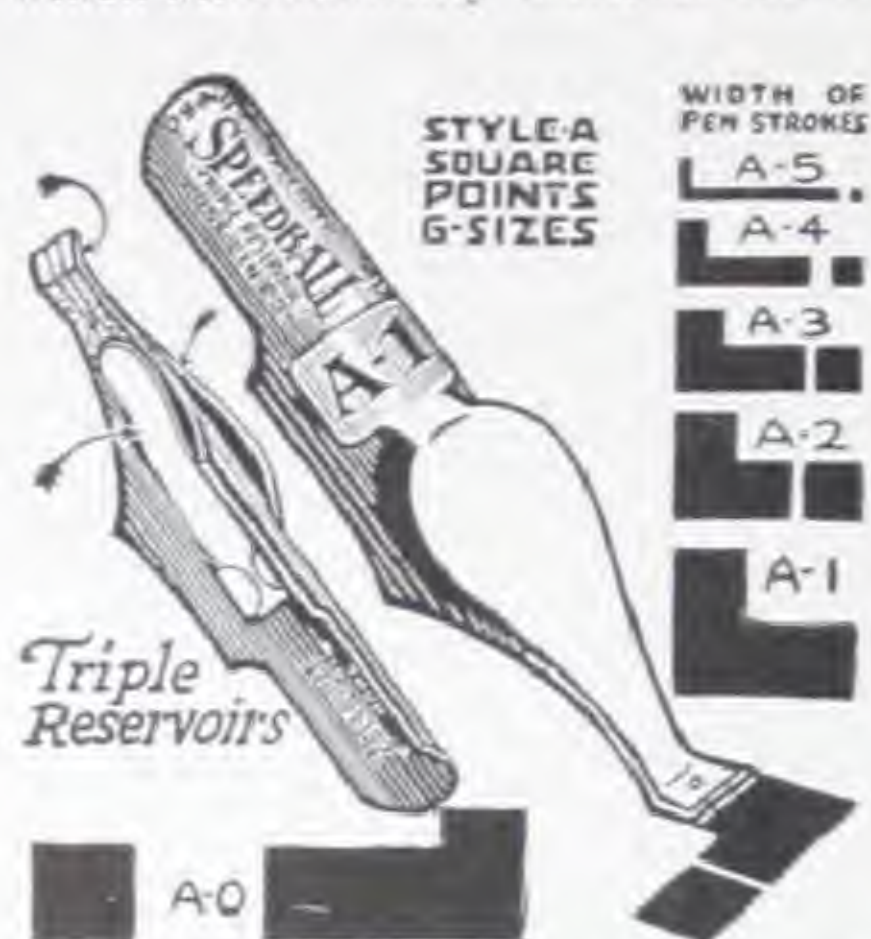
724714

| 724714 | Penholder, spiral cedar, steel tip, for pens Nos. 170, 290, and 291 | EACH | PER
Doz. |
|--------|---|------|-------------|

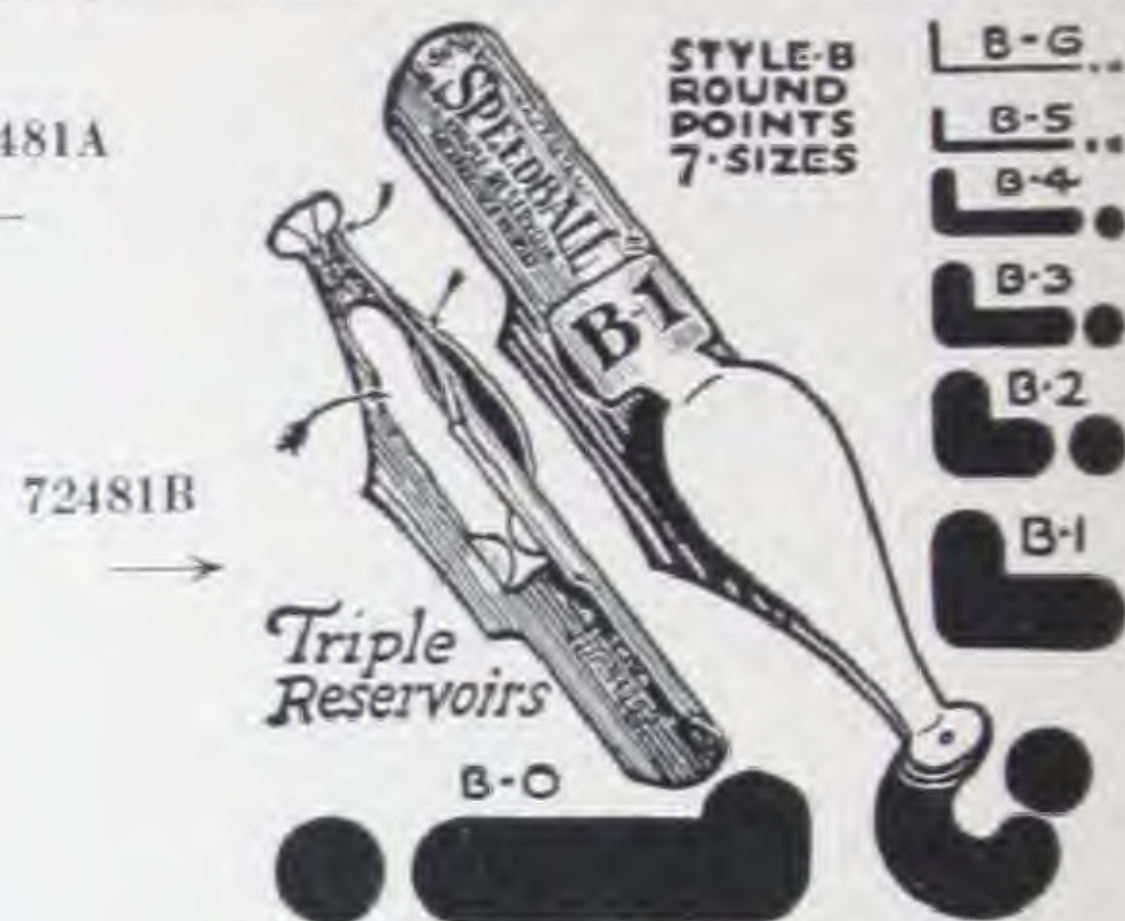
See Price List Inside Back Cover

SPEEDBALL LETTERING PENS

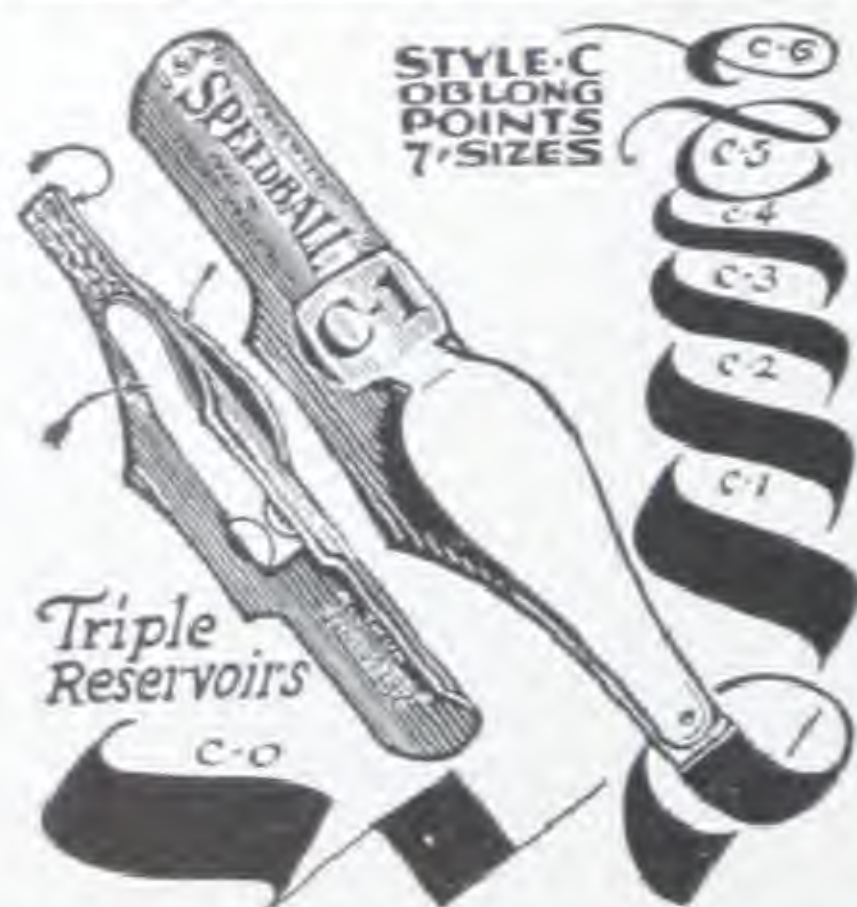
A speedball is the fastest and the most easily manipulated drawing and lettering pen ever devised. Each pen is fitted with a flexible, brass, double-reservoir ink-retainer which automatically controls the flow, and spreads the color over the entire marking tip.



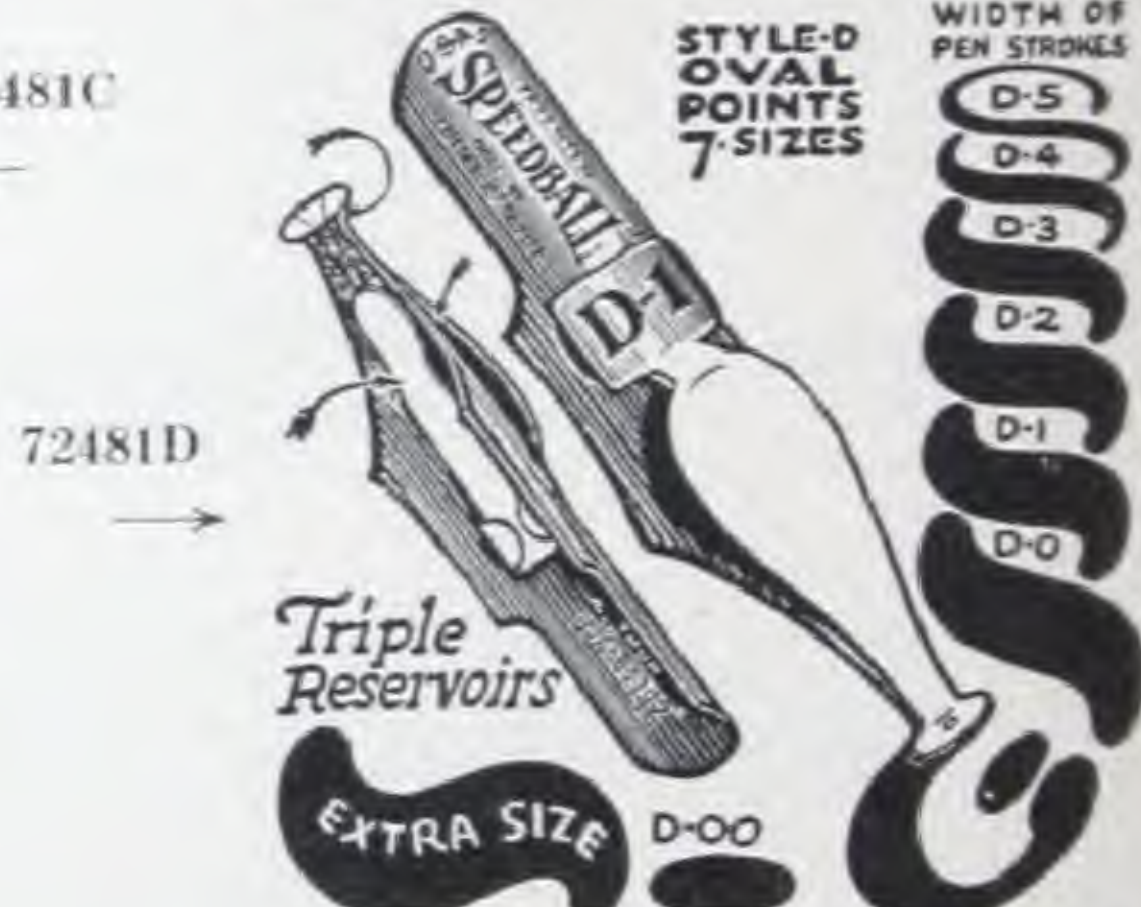
STYLE 'A' SQUARE TIPS
for Square Gothic and Block Letters



STYLE 'B' ROUND TIPS
for Round Gothics or Uniform Lines



STYLE 'C' OBLONG TIPS
for Roman, Text and Shaded Italics



STYLE 'D' OVAL TIPS
for Bold Roman, Texts, Italics, etc.

72481 A-B-C or D Speedball Lettering Pens

EACH PER DOZEN



SPEEDBALL COLORED INKS

Specially made for pen lettering. Free flowing and dries with a soft, velvet finish. Brilliant colors.

COLOR ASSORTMENT

| | | | |
|-----------|----------------|--------|-----------|
| Green | Turquoise Blue | Orange | Yellow |
| Dark Blue | Emerald | Black | White |
| | | EACH | PER DOZEN |

72482 Speedball Ink, 2-ounce jars

Ask for complete Speedball catalog

See Price List Inside Back Cover

B. K. ELLIOTT COMPANY

LEONHARDT'S BALL POINTED PENS



72491



72492

Doz. GROSS

- 2491 Leonhardt's Ball Pointed Pens, fine.....
 2492 Leonhardt's Ball Pointed Pens, extra fine.....

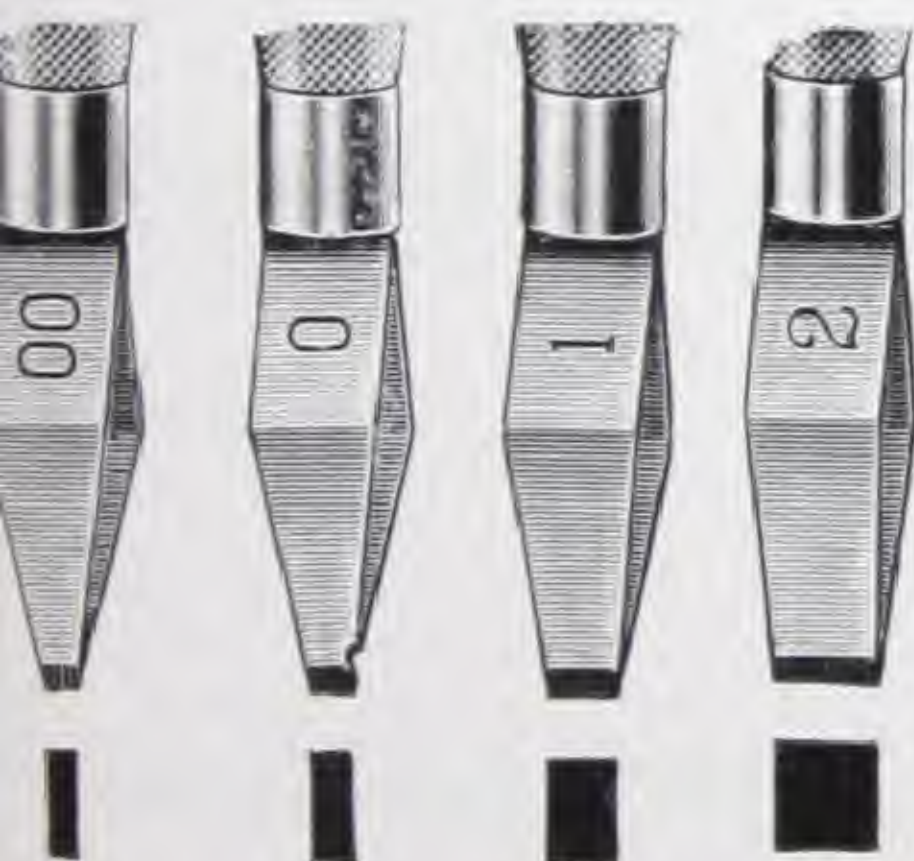
ROUND WRITING PENS



PER DOZ.

- 2493 Single Pointed Pens, Nos. 1, 1½, 2, 2½, 3, 3½, 4, 4½, 5, 5½, 6,

AUTOMATIC MARKING PENS



AUTOMATIC SHADING PENS



EACH

- 2494 Automatic Marking Pens, Nos..... 00 0 1 2 3 4 5
 Width of Nib, inches..... 1/16 3/32 1/8 3/16 1/4 3/8 1/2
 2495 Automatic Shading Pens, Nos..... 0 1 2 3 5

See Price List Inside Back Cover

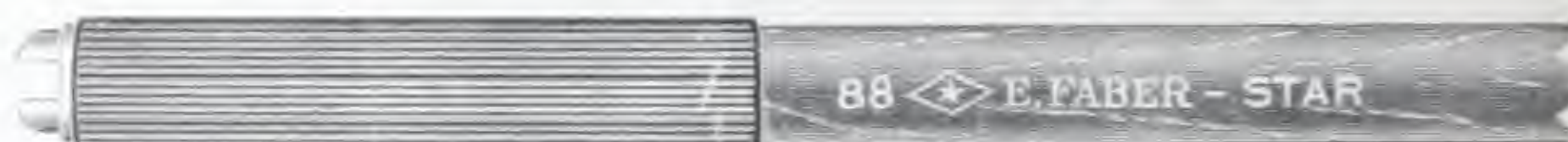
PENHOLDERS



72501

PER DOZ. EACH

- 72501 Natural polish, hard rubber tip, small
- 72502 Natural polish, hard rubber tip, medium
- 72503 Natural polish, hard rubber tip, large



72504

PER DOZ. EACH

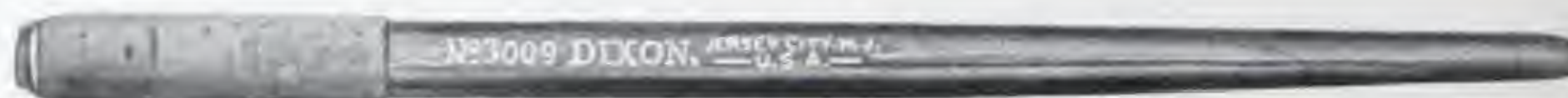
- 72504 Fluted, soft white rubber tip, natural polished, taper cedar handle



72505

PER DOZ. EACH

- 72505 Cedar finish, medium taper, hard rubber tip



72506

PER DOZ. EACH

- 72506 Taper cork tip, natural finish



72507

PER DOZ. EACH

- 72507 Taper, natural finish

See Price List Inside Back Cover

HIGGINS' AMERICAN DRAWING INKS



- 3/4 oz. 1/2 Pt. Pt. Qt.
- 2511 Higgins' General Black Ink EACH
- 2512 Higgins' Waterproof Black Ink EACH
- 2513 Higgins' Colored Inks made in the following colors,
all waterproof: EACH

| | | |
|------------------------|-----------|--------------|
| Yellow | Violet | Neutral Tint |
| Orange | Blue | White |
| Orange Red (Vermilion) | Turquoise | Brick Red |
| Red (Scarlet) | Green | Russet |
| Carmine Red | Leaf | Brown |
| Red Violet | | Indigo |

In ordering No. 72513, please state color of Ink desired

HIGGINS' WRITING INKS

Eternal Black Ink. Proof against age, air, moisture, sunshine and chemical eradi-
ators, its beautiful lustrous black accords the utmost in dignified appearance. Widely
used for records, contracts and general correspondence. Standard for penmanship classes.
Excellent for fountain pens if care is taken to avoid mixing with other inks.

- 2514 Higgins Eternal Ink EACH
- 2 oz. 1/2 Pt. Pt. Qt.

Engrossing Ink—For fancy penmanship, lettering diplomas, music writing and for
engrossing testimonials and other documents.

- 2515 Engrossing Ink EACH
- 1 1/2 oz. 1/2 Pt. Pt.

Blue-Black Writing Ink—Writes blue—turns blue black. The favorite for fountain
pens. Excellent for records and accounts.

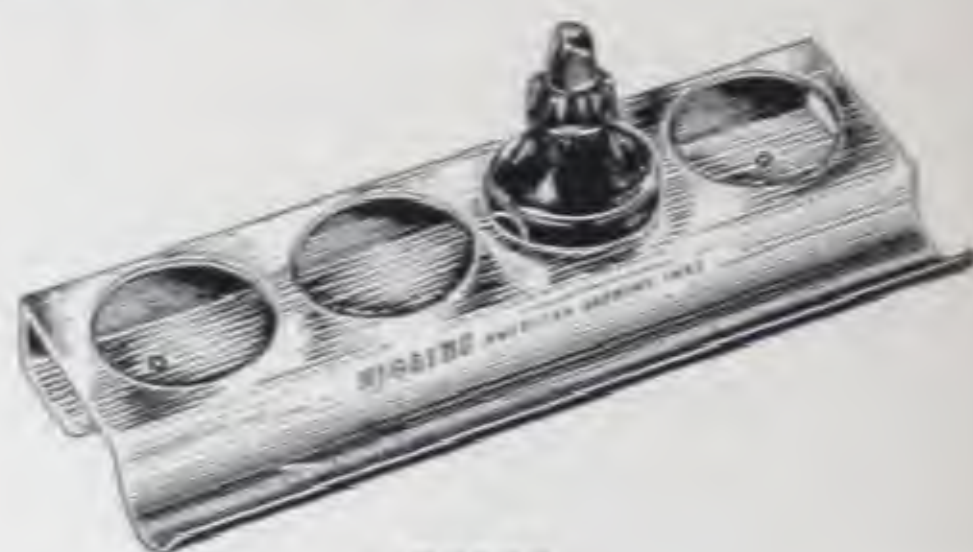
- 2516 Blue-Black writing Ink EACH
- 2 oz. 1/2 Pt. Pt.

See Price List Inside Back Cover

DRAWING INKSTANDS



72521



72522

Each

- 72521 Aluminum inkstand, open platform, holds four $\frac{3}{4}$ -oz. bottles.
- 72522 Aluminum inkstand, closed platform, holds four $\frac{3}{4}$ -oz. bottles.



72523

Each

- 72523 Elliott's Drawing Inkstand, containing five $\frac{3}{4}$ -ounce bottles of drawing ink (assorted to order).
- 72524 Elliott's Tray, without ink, 5 holes for $\frac{3}{4}$ -ounce bottles.
- 72525 Elliott's Tray, without ink, 3 holes for $\frac{3}{4}$ -ounce bottles.
- 72526 Elliott's Tray, without ink, 2 holes for $\frac{3}{4}$ -ounce bottles.

EMPTY $\frac{3}{4}$ OUNCE BOTTLES AND STOPPERS



72527



72528



72529

Each Doz.

- 72527 Elliott's Empty Ink Bottles, $\frac{3}{4}$ -ounce.
- 72528 Elliott's Cork and Plastic Stoppers for $\frac{3}{4}$ -ounce bottles.
- 72529 Elliott's Rubber Dropper Stoppers for $\frac{3}{4}$ -ounce bottles.

See Price List Inside Back Cover



B. K. ELLIOTT COMPANY



DRAFTSMAN'S PEN-FILLING INKSTANDS

ORIGINAL TYPE

With this instrument the draftsman is able to fill his pen in a few seconds. It requires the use of but one hand. Just the right amount of ink is deposited **between** the blades with no tendency to ink the outside. The $\frac{3}{4}$ -oz. bottle is automatically closed, preventing evaporation. The inkstand can be safely kept in the immediate vicinity of the work without fear of spilling or splattering.



EACH

531 Altener Original Pen-Filling Ink Stand, no bottle.....

IMPROVED TYPE

The Improved Inkstand is made with a rubber cap which fits over a specially designed $\frac{3}{4}$ -oz. bottle furnished with the instrument. The stem is also adjustable.

Both Instruments are made of cast iron japanned in black. Colors furnished at an additional cost.

Replacements

EACH

Dipper Loops
Washers (original)
Rubber Caps (improved).
Bottles (improved).....



532 Altener Improved Pen-Filling Ink Stand with bottle.....

ELLIOTT'S "NON-SKID" INK BOTTLE HOLDER

No more skidding of your ink bottle when placed on an inclined drawing board. It stays put, right where you place it. It's the neatest thing ever; made of rubber, black, bell-shaped, circular tread on bottom (see illustration) to prevent skidding; $\frac{3}{4}$ -oz. bottle fits snugly into the top; can't tip out. Make your drawing board a safe place to set an ink bottle.

533 Ink Bottle Holder and Paper Weight Doz. EACH



See Price List Inside Back Cover

ADHESIVES



3 oz. Jar

HIGGINS' DRAWING BOARD PASTE

A novel adhesive of great strength and body, especially prepared for sticking paper to the drawing board, repairing and labeling books, mounting textile samples and all similar work requiring a quick-acting and powerful adhesive.

72541 Drawing Board Paste.

SIZE..... 3 OUNCE 6 OUNCE PINT QUART
EACH.....

HIGGINS' PHOTO PASTE

A superior, pure-white adhesive, especially adapted to mounting photographs, engravings and scrap pictures, or for use wherever paper is mounted on paper.

72542 Photo Paste.

SIZE. TUBES 3 Oz. 6 Oz. Pt. Qt.
EACH..



6 oz. Water Well Jar



6 oz. Opal Bottle

HIGGINS' OFFICE PASTE

A fragrant, semi-liquid white paste. Spreads with ease and smoothness, catching firmly and drying quickly. Suitable for office, home and school use.

72543 Office Paste.

SIZE.. 2½ OUNCE 6 OUNCE PINT QUART
EACH..

HIGGINS' MUCILAGE

Catches quicker and dries quicker than any other mucilage of its type. Contains no gum arabic.

1¼ ounce furnished with spreader top, 3½ ounce and 6 ounce with adjustable spreader top.

72544 Higgins Mucilage.

SIZE..... 1¼ OUNCE 2½ OUNCE 6 OUNCE PINT QUART
EACH.....



1¼ oz. Spreader Top

See Price List Inside Back Cover

ADHESIVES

HIGGINS' VEGETABLE GLUE

Adapted for heavy work, such as making up packages, sticking paper or cloth to each other or to wood, glass, metal or leather. Put up in lacquered tin cans for economy. Not warranted against discoloring paper.

72551 Higgins' Vegetable Glue.

SIZE..... ½ PINT PINT QUART GALLON
EACH.....



72551



72552



72554

72552 Sanford's Utopian Library Paste in glass jars with brush.

SIZE..... 5 OUNCE 8 OUNCE PINT QUART
EACH.....

72553 Sanford's Utopian Library Paste in glass jars without brush.

SIZE..... PINT QUART
EACH.....

72554 Le Page's Glue in patent tin cans.

SIZE..... TUBES 1 OUNCE 2 OUNCE ½ PINT PINT QUART
EACH.....

See Price List Inside Back Cover

LUXOR WHITE RUBBER CEMENT

REG. U. S. PAT. OFF.

THE MODERN PAPER ADHESIVE



The Luxor Rubber Cement Family

Luxor White Rubber Cement is the finest adhesive known for joining paper to paper, paper to wood, glass or metal. Luxor Rubber Cement is transparent and stainless and will not wrinkle, curl or shrink. For temporary mounting apply a light coat with brush or fingers to paper only, apply paper to mount while wet. For permanent mountings apply cement to both surfaces allowing same to dry slightly, then join, pressing firmly together. Excess cement can be removed from the surface when dry by rubbing with the fingers.

Available in Six Sizes

EACH

| | | |
|--------|-------------------------|-------|
| 725601 | Tube, 2 oz. | ..... |
| 725602 | Screw Top Cans, ½ pint. | ..... |
| 725603 | Screw Top Cans, pint. | ..... |
| 725604 | Screw Top Cans, quart. | ..... |
| 725605 | Screw Top Cans, gallon. | ..... |

LUXOR THINNING SOLUTION

REG. U. S. PAT. OFF.

FOR THINNING WHITE OR BROWN RUBBER CEMENT

| | | | | | |
|--------|------------------|------|--------|------------------|------|
| 725606 | ½ Pint Cans..... | EACH | 725608 | Quart Cans..... | EACH |
| 725607 | Pint Cans..... | | 725609 | Gallon Cans..... | |

RUBBER CEMENT DISPENSERS

WITH BRUSH

EMPTY FILLED

| | | |
|--------|---|------|
| 725610 | Glass Dispensers, Air Tight—½ pint..... | EACH |
| 725611 | Glass Dispensers, Air Tight—pint..... | EACH |

See Price List Inside Back Cover



FIXATIF

725701 Pastel Fixatif.

For many years the artist has been seeking a fixatif which would securely fix the pastel without changing the delicate shades of color. We now offer a new fixatif prepared expressly for fixing pastel drawings. It is crystal clear, dries absolutely matt, gives a durable protection and is guaranteed not to change the most delicate color tones.

SIZE..... 2¼ Oz. 4 Oz. ½ Pt. Pt. Qt.
EACH.....

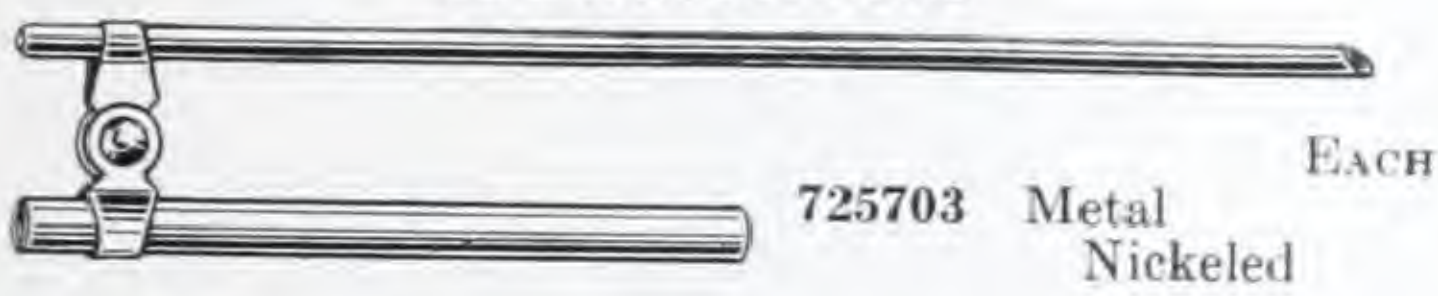
CHARCOAL FIXATIF

725702 Charcoal Fixatif.

A superior grade of water white fixatif prepared from a blend of selected pale gums. A light application sprayed evenly over the drawing will preserve it indefinitely. It is absolutely colorless after application.

SIZE..... 2¼ Oz. ½ Pt. Pt. Qt.
EACH.....

ATOMIZERS



CHINAWARE



- 04 Well Slab, 5 Wells and 5 Slants, 4¼ x 7¾ in.....
- 05 Nests, Five Saucers and Cover, 2¾ in. diam.....
- 06 Nests, Five Saucers and Cover, 2½ in. diam.....
- 07 Nests, Five Saucers and Cover, 3⅜ in. diam.....

EACH

ELLIOTT'S ARTISTS' PALETTE KNIVES



STRAIGHT TAPERING POINT—POLISHED HANDLE
Made of the finest Tempered Steel

EACH

- 08 2¼ inch blade.....
- 09 3 inch blade.....
- 0 3½ inch blade.....
- 1 4 inch blade.....
- 2 4½ inch blade.....

See Price List Inside Back Cover

WINSOR & NEWTON, Inc.,
PREPARED WATER COLORS

WHOLE TUBES

WHOLE PANS



WHOLE TUBE

ARTIST'S WATER COLORS

| Name of Color | Series No. | Name of Color | Series No. | Name of Color | Series No. |
|------------------------|------------|-------------------------|------------|------------------------|------------|
| Antwerp Blue..... | 1 | Carmine..... | 4 | Payne's Grey..... | 1 |
| Alizarin Crimson..... | 2 | Emerald Green..... | 1 | Permanent Blue..... | 1 |
| Aureolin..... | 4 | French Ultramarine.... | 3 | Prussian Blue..... | 1 |
| Aurora Yellow..... | 4 | Gamboge (New)..... | 1 | Prussian Green..... | 1 |
| Burnt Sienna..... | 1 | Hooker's Green No. 1.. | 1 | Raw Sienna..... | 1 |
| Burnt Umber..... | 1 | Hooker's Green No. 2.. | 1 | Raw Umber..... | 1 |
| Brown Madder Alizarin | 2 | Indian Red..... | 1 | Rose Madder..... | 4 |
| Charcoal Grey..... | 1 | Ivory Black..... | 1 | Sap Green..... | 1 |
| Chrome Yellow..... | 1 | Indigo..... | 2 | Scarlet Lake (New).... | 2 |
| Chrome Orange..... | 1 | Lamp Black..... | 1 | Sepia..... | 2 |
| Crimson Lake..... | 2 | Light Red..... | 1 | Scarlet Vermilion..... | 4 |
| Cadmium Yellow, Pale.. | 4 | Lemon Yellow..... | 3 | Terre Verte..... | 1 |
| Cadmium Yellow..... | 4 | Mauve..... | 1 | Vandyke Brown..... | 1 |
| Cadmium Yellow, Deep.. | 4 | Mineral Violet (Pans).. | 3 | Venetian Red..... | 1 |
| Cadmium Orange..... | 4 | Naples Yellow..... | 1 | Vermilion..... | 4 |
| Cerulean Blue..... | 3 | Neutral Tint..... | 1 | Viridian..... | 3 |
| Cobalt Blue..... | 3 | Olive Green..... | 1 | Warm Sepia..... | 2 |
| Cobalt Green..... | 3 | Oxide of Chromium.... | 3 | Yellow Ochre..... | 1 |

SERIES 1 2 3 4

72581 Winsor & Newton Water Colors, Whole Tubes... EACH

72582 Winsor & Newton Water Colors, Whole Pans.... EACH

Color Card Sent Upon Request

See Price List Inside Back Cover

WINSOR & NEWTON

PERMANENT CHINESE WHITE



Size of Small Tube



Large Tube Size 6

- | | | |
|----|---|------|
| 01 | W. & N.'s Chinese White, in small tube..... | EACH |
| 02 | W. & N.'s Chinese White, in large tube, size 6..... | |

TRANSPARENT WATER COLORS

For coloring or tinting mine maps, drawings, blueprints, etc., they are transparent fast to light. Can be used with brush or pen. Made in 24 colors that can be blended to obtain any desired shade.

COLORS

| | | | |
|---------------|---------------|------------------|--------------|
| Primum Yellow | Cerise | Cerulean Blue | Purple |
| Orange Yellow | Rose Madder | Turquoise Blue | Bluish Black |
| Orange | Nile Green | Ultramarine Blue | Light Brown |
| Yellow | Emerald Green | Prussian Blue | Redish Brown |
| Green | Olive Green | Magenta | Sepia |
| Blue | Hookers Green | Violet | Light Gray |

- | | | |
|----|---------------------------------------|------|
| 03 | Transparent Water Colors, 1/2 oz..... | EACH |
| 04 | Transparent Water Colors, 2 oz..... | |

Send for Color Card

See Price List Inside Back Cover

ARTISTS' WATER COLOR OUTFITS



72601

- EACH
- 72601 Outfit contains 15 $\frac{1}{2}$ " x 3" tubes Winsor & Newton Water Colors selected for their permanency and mixing qualities. Put up in an attractive metal box with one red sable and one camel hair brush.

- EACH
- 72602 Outfit Contains 12 Winsor & Newton Water Color Tubes

- EACH
- 72603 Outfit—a complete selection of 27 Winsor & Newton Water Colors in Porcelain half-pans. Put up in metal box. One red sable and one camel hair brush.



72603



72604

- EACH
- 72604 Outfit contains 24 colors in a perfect related color wheel and one tube each white and black. One wash brush No. 7, one small red sable brush. The selection of colors is complete enough to encompass any standard color theory. For any theory using middle

values, the colors being highly transparent, can be brought to middle values by thinning the dark ones further than usual with water or mixing with Chinese White. To dull the tones add complement or black.

See Price List Inside Back Cover

B. K. ELLIOTT COMPANY

BRUSHES FOR WATER COLOR PAINTING

ELLIOTT'S LONDON-MADE FINEST RED SABLE BRUSHES

"UNIVERSITY" SERIES 66

REG. U. S. PAT. OFF.



Illustration Actual Size

511 "University" Brushes

REG. U. S. PAT. OFF.

| | | | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|---|---|----|----|
| SIZE..... | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 12 |
| EACH..... | | | | | | | | | | | |

From one of England's foremost brush makers comes a new, genuine red sable water color brush, the "University," for the artist, designer, toucher and illustrator. This super-quality brush is made of the finest red sable hair, properly formed to give a perfect natural point. The hair is full of life and spring and will remain so until the brush is worn out. The hair is properly wrapped and vulcanized in heavy nickel plated brass ferrules on polished handles, correctly balanced.

See Price List Inside Back Cover

OXHAIR SINGLE STROKE LETTERING BRUSHES

SERIES No. 65

(For Oil or Water Color)

An extremely fine one-stroke brush with clean square chisel edge that will work with oil, japan or water.

Illustration
Actual Size



72621—SIZE, INCHES $\frac{1}{8}$ $\frac{3}{16}$ $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{4}$ $1\frac{1}{2}$
EACH

CAMEL HAIR BRUSHES—SERIES 3088

For water color painting—polished handles—metal ferrules—fine quality camel hair—that points well.



72622 SIZE..... 1 2 3 4 5 6 7 8 9 10 11 12
EACH.....

All illustrations, this page, actual size

See Price List Inside Back Cover

STEEL TAPE STANDARDS

TENSION, TEMPERATURE, STANDARDIZATION, ETC.

LUFKIN Steel Tapes are made to bench standards certified accurate by the United States Department of Commerce, National Bureau of Standards, Washington, D. C.

The temperature standard for steel tapes is 68° Fahrenheit (equal to 20° centigrade). Official coefficient of expansion of steel tapes is 0.00000645 per degree Fahrenheit, 0.000116 per degree centigrade. This amounts to 0.000645 foot or 0.00774 inch per degree Fahrenheit on a 100 foot tape; on a 50 foot to just one-half, and on a 200 foot to double that distance per degree. The same coefficient may safely be used for our stainless steel tapes also. For illustration of length variation with temperature, see page 284.

Standard tension for steel tapes supported horizontally throughout entire length, on flat surfaces is 10 pounds (4.5 kilograms) for tapes from 25 to 100 feet or from 10 to 30 meters long. For tapes longer than 100 feet or 30 meters it is 20 pounds (9 kilos.).

Temperature and tension need be taken closely into account only on very precise work. We recommend Government test of tapes for such work or used as master standards. Such tests are made for a nominal fee by the Government Laboratories.



Instantaneous Readings

Lufkin Steel Tapes have Instantaneous Readings, a great improvement in numbering as shown above. Briefly described, it is the last preceding foot number repeated at each inch or tenth throughout the tape, in small, yet easily read figures. This keeps the total reading directly before the eye, eliminates the chance of error in running back to the last foot, and saves time.

"Chrome Clad" Steel Tapes have jet black markings on satin chrome-white surface, easy to read.

"Nubian Finish" Steel Tapes have raised lines and figures in the natural steel over lead-black background.

As to accuracy there is no distinction, both the Chrome Clad and "Nubian" Tapes are recognized standard.

GRADUATIONS

We can furnish Tapes and Rules in a variety of graduations, including the Metric System.

REPAIRING STEEL TAPES

We promptly attend to any repairs on steel tapes and execute them in the most approved manner at moderate charge.

A complete catalog of Measuring Tapes and Rules will be gladly sent on request.

LUFKIN

CHROME CLAD STEEL TAPES



THE OUTSTANDING DEVELOPMENT IN THE MANUFACTURE OF MEASURING TAPES

Much of the story of Chrome Clad Tapes is told in these seven words:

"EASY-TO-READ MARKINGS THAT ARE DURABLE"

They are the first Steel Tapes having markings that are both durable and easy to read, features of equal importance.

AMONG THEIR OTHER SUPERIOR QUALITIES ARE THESE:

Resist Rust.

Are Extra Strong.

Will Not Crack, Chip or Peel.

Cases and Frames of Improved Types.

Before being placed on the market, Chrome Clad Tapes were tested for many months under actual, severe conditions of use. Thus their ease of reading under various lights, their durability and other essential qualities were most thoroughly proven in advance.

Since then they have, in actual use by our customers, in all classes of work, abundantly justified all claims we make for them.

"Anchor" Chrome Clad

STEEL TAPES

(Patent Pending)



$\frac{3}{8}$ Inch Wide.

Leather Case.

"Anchor" Chrome Clad is an accurate Steel Tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free of glare.

"Anchor" is the type of Steel Tape suitable for all usual measuring work, with durable case, very nice to carry. This case is of finest, genuine leather, mahogany in color, closely hand-stitched over a substantial, plated, steel liner. Folding flush handle opened by push pin. Tape has "Instantaneous" Readings; zero falls at outer end of stainless steel ring.

| LENGTH IN FEET..... | | 25 | 50 | 100 |
|---------------------|---|----------|----------|----------|
| | | (C-210) | (C-213) | (C-216) |
| 2651 | Graduated Feet, Inches and Eighth,
EACH..... | (C-210D) | (C-213D) | (C-216D) |
| 2652 | Graduated Feet, Tenths and 100ths ft.,
EACH..... | | | |

NOTE: "Anchor" Chrome Clad Tapes $\frac{1}{2}$ -inch wide can be furnished. Write for prices.

"ANCHOR JR." CHROME CLAD TAPES

Complete With Leather Case.

$\frac{1}{4}$ Inch Wide, Light Weight Line.



A counterpart of the "Anchor" Tape but smaller and of about one half its weight, hence nicest to carry. This quarter-inch line is somewhat thinner than $\frac{3}{8}$ inch wide Chrome Clad Tapes. Case is of high grade, genuine leather, mahogany in color, closely hand-stitched over a substantial, plated, steel liner. Flush folding handle is opened by push pin. Tape has "Instantaneous" Readings; zero falls at outer end of stainless steel ring.

| LENGTH IN FEET..... | | 25 | 50 |
|---------------------|--|-----------|-----------|
| | | (C-1210) | (C-1213) |
| 2653 | Graduated Feet, Inches and Eighths, EACH..... | (C-1210D) | (C-1213D) |
| 2654 | Graduated Feet, Tenths and 100ths ft., EACH..... | | |

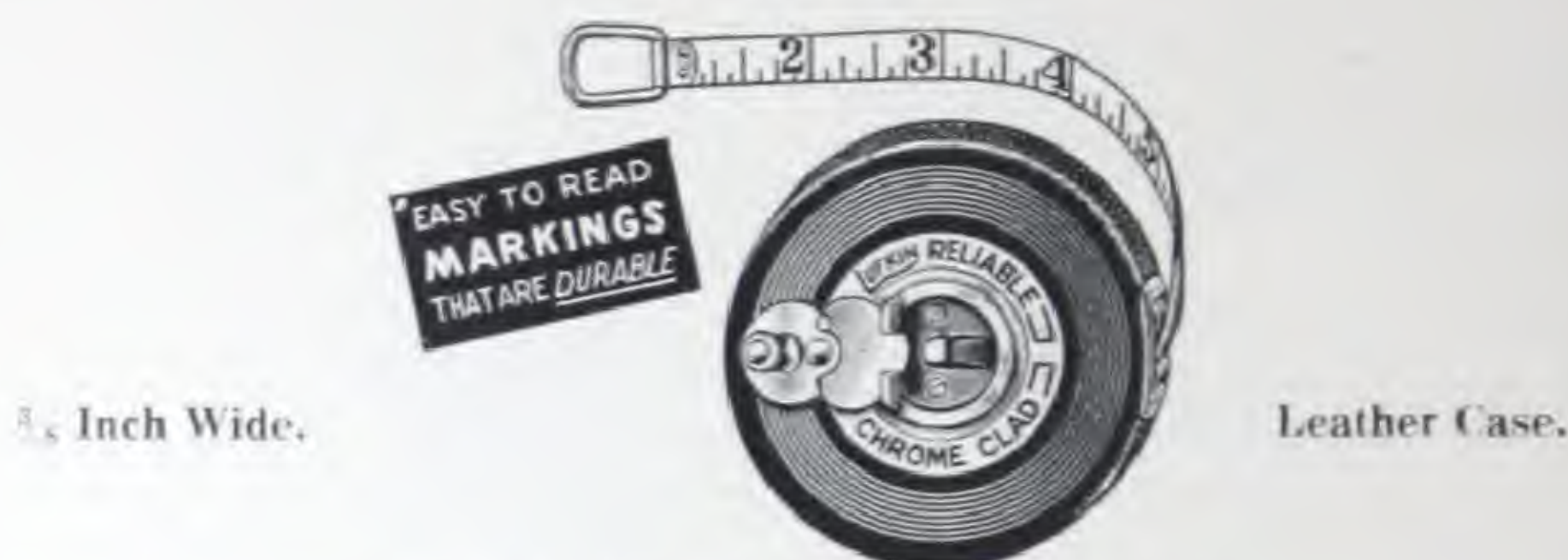
NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

"Reliable" Chrome Clad

STEEL TAPES

(Patent Pending)



Best of All Steel Tapes for General Uses

Case of superior, genuine leather, mahogany in color, closely hand-stitched over a substantial, plated, steel liner. Double folding flush winding handle has extension finger hold, and is opened by pressing on opposite side. Tape has "Instantaneous" Readings; zero falls at outer end of stainless steel ring.

| | LENGTH IN FEET..... | 25
(C-200) | 50
(C-203) | 100
(C-206) |
|-------|--|---------------|---------------|----------------|
| 72661 | Graduated Feet, Inches and Eighths,
EACH..... | (C-200D) | (C-203D) | (C-206D) |
| 72662 | Graduated Feet, Tenths and 100ths ft.
EACH..... | | | |

"LEADER" CHROME CLAD TAPES

The Popular Priced Chrome Clad Tape.

Accurate. Serviceable. Attractive.

3/8 Inch Wide.

"Leader" Chrome Clad is built for those who need a long Steel Tape that is accurate, easy to read and serviceable, yet moderate in price. The line is same weight and has the same superior features as our other 3/8 inch wide Chrome Clad Tapes. The case is a type that has proven very satisfactory, attractive and durable. It is of black, imitation leather, over a substantial, plated, steel liner. It has a 3/16 inch wide, flat, flush, nickel plated edge band and folding, flush handle opened by push pin. Tape has "Instantaneous" Readings. Zero falls at outer end of the standard pattern, stainless steel ring.

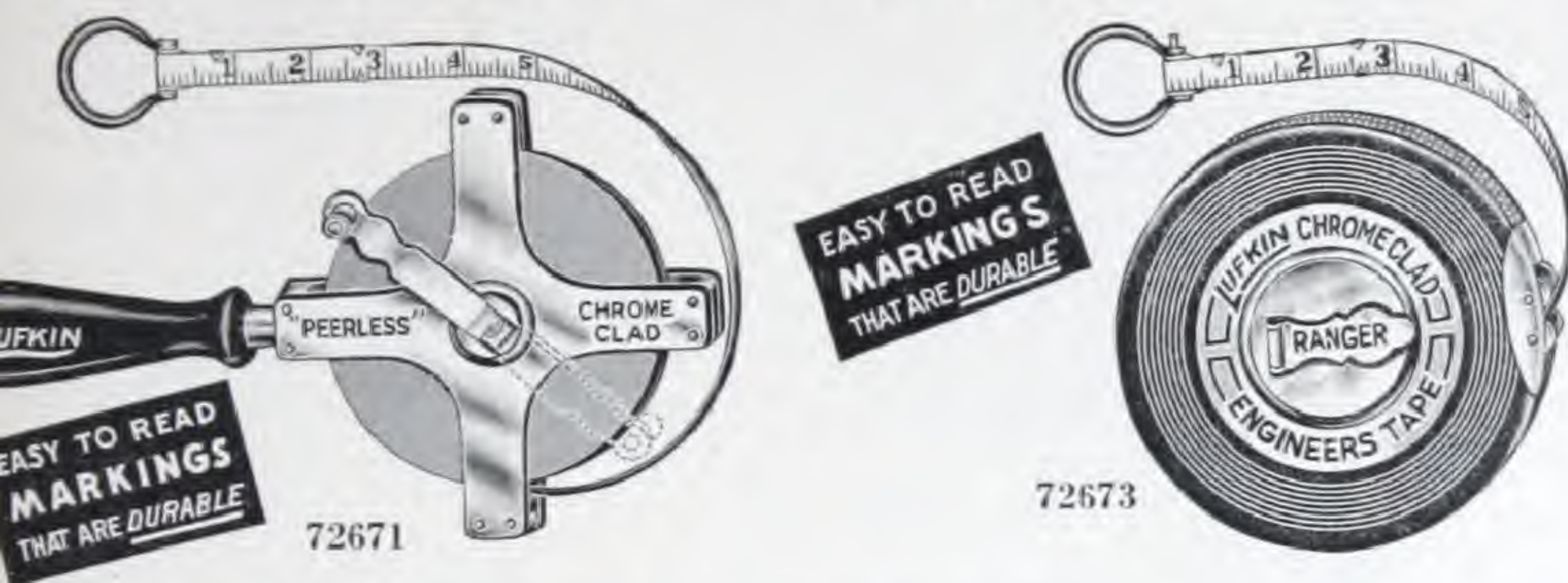


| | LENGTH IN FEET..... | 25
(C-250) | 50
(C-253) | 100
(C-256) |
|-------|---|---------------|---------------|----------------|
| 72663 | Graduated Feet, Inches and Eighths, EACH..... | | | |

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

ENGINEERS STEEL TAPES



Chrome Clad

$\frac{1}{4}$ Inch, Flexible, Sturdy Line.

Lock Handle Frame or Leather Case.

Engineer's Pattern Chrome Clad Tapes, on Lock Handle Frame or in Leather Case. The line is $\frac{1}{4}$ -inch wide, accurate, sturdy, flexible yet durable. It is the most popular weight, being heavier than the $\frac{3}{8}$ -inch wide tapes. Zero falls at the extreme end of this tape and it has "Instantaneous" readings. The patented finger rings are detachable and have a $3\frac{1}{2}$ -inch tape support, guarding against end breakage. The line is readily removed from Reel or Case and often used thus with the two rings supplied.

No. 72671 has a substantial 4-arm pattern metal reel, with lock winding handle, which, when turned over, engages the frame arms, thus locking the line at any point. Frame is heavily nickel-plated, and has tape roller in each arm.

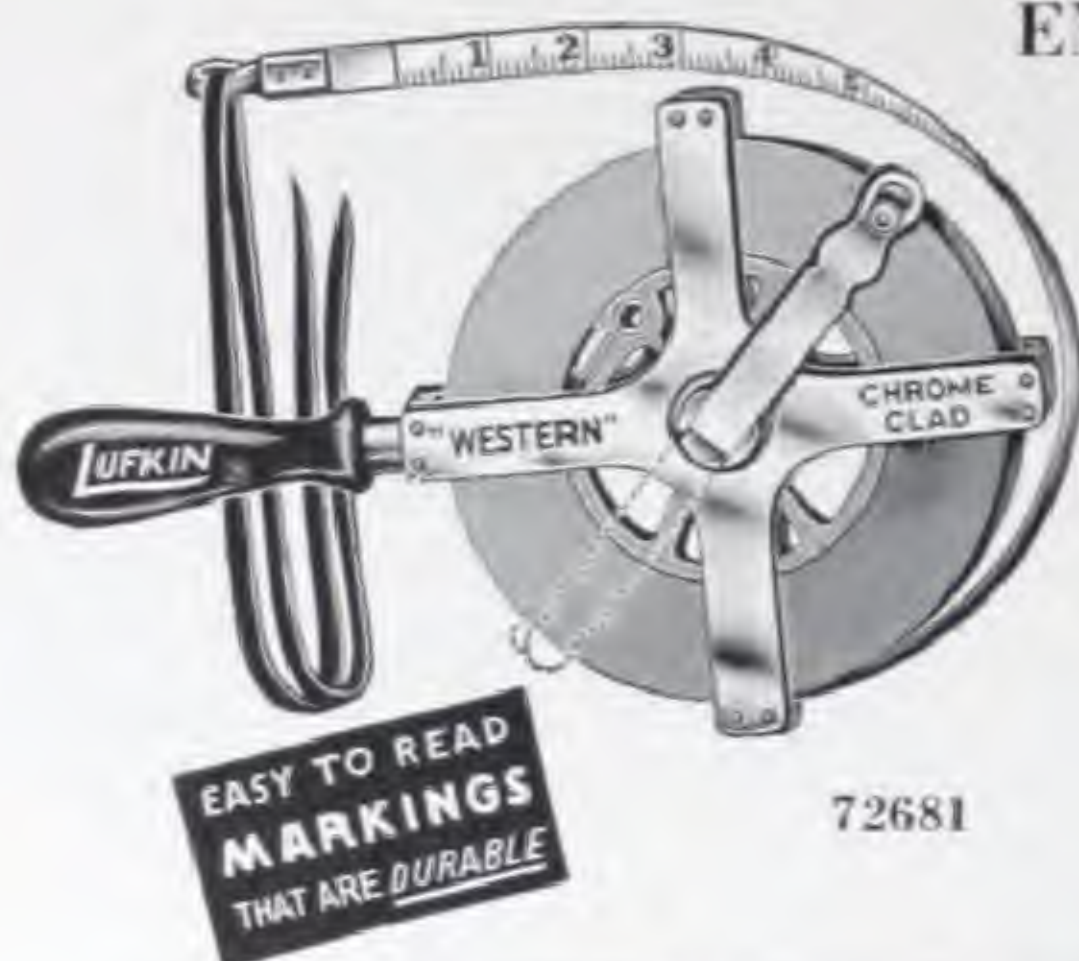
No. 72673 is furnished in a durable leather case of very finest appearance. Genuine leather, closely stitched over a substantial, plated steel liner with a roller throat. Folding flush handle is opened by pushing pin on opposite side.

| LENGTH IN FEET | | 50 | 100 |
|-------------------------|--|-----------|-----------|
| "Peerless" Tape on Reel | | (C-1273) | (C-1276) |
| 72671 | Graduated Feet, Inches and 8ths, EACH | (C-1273D) | (C-1276D) |
| 72672 | Graduated Feet, Tenths and 100ths foot, EACH | | |
| "Ranger" Tape in Case | | (C-233) | (C-236) |
| 72673 | Graduated Feet, Inches and 8ths, EACH | (C-233D) | (C-236D) |
| 72674 | Graduated Feet, Tenths and 100ths foot, EACH | | |

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

ENGINEERS STEEL TAPES



72681

1/4 INCH, EXTRA HEAVY LINE

LOCK HANDLE FRAME

"Western" Chrome Clad

An Extra Heavy, Chrome Clad, fully subdivided Tape. Chain Tape weight, with blank space each end and a heavy eye permanently attached to receive rawhide thongs. Two thongs are supplied. Tape can be readily removed from the sturdy Lock Handle Frame.

"Western" Tape on Reel

| | | |
|-------|--|---------------------|
| 72681 | Graduated Feet, Inches and 8ths, EACH | 100 Fr.
(C-1676) |
| 72682 | Graduated Feet, Tenths and 100ths foot, EACH | (C-1676D) |

"Western" Tape Without Reel

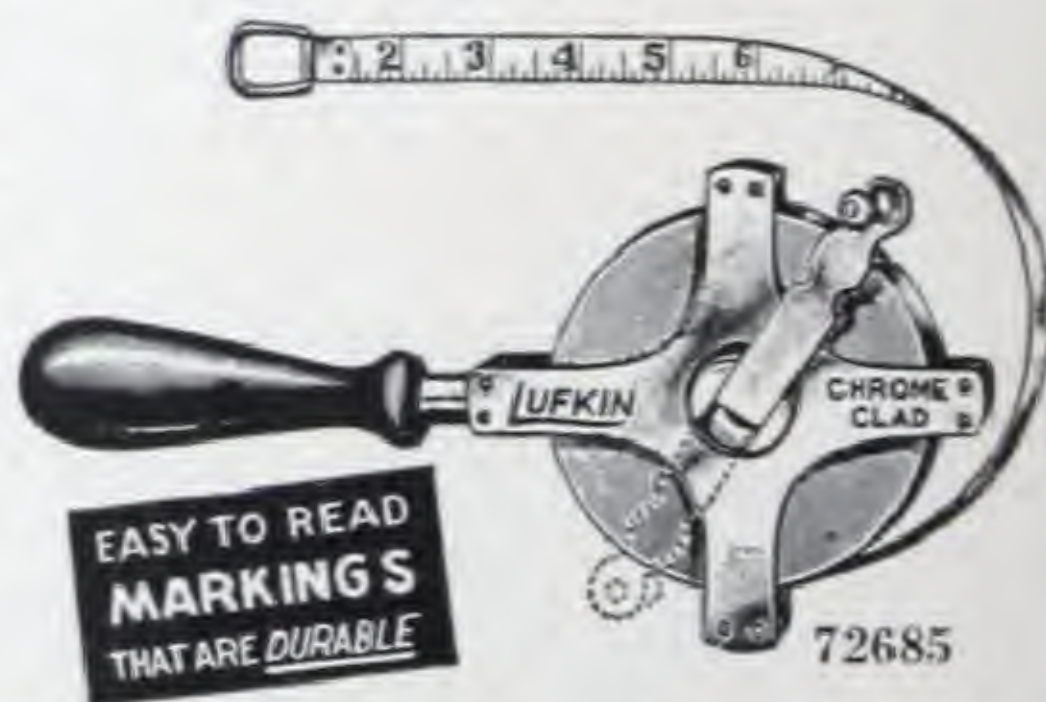
| | | |
|-------|--|------------|
| 72683 | Graduated Feet, Inches and 8ths, EACH | (OC-1676) |
| 72684 | Graduated Feet, Tenths and 100ths foot, EACH | (OC-1676D) |

Chrome Clad

**STEEL FRAME
TAPES**

3/8 Inch Wide

With Lock Handle



72685

The same Chrome Clad line as furnished in Reliable and Anchor Tapes, but on a Lock Handle Frame. As tapes on reels do not readily clog with dirt and require the minimum of care, they are preferred for some types of work.

| | LENGTH IN FEET | 50
(C-1283) | 100
(C-1286) |
|-------|--|----------------|-----------------|
| 72685 | Graduated Feet, Inches and 8ths, EACH | (C-1283D) | (C-1286D) |
| 72686 | Graduated Feet, Tenths and 100ths foot, EACH | | |

NOTE: This tape can also be supplied in 1/2-inch width.

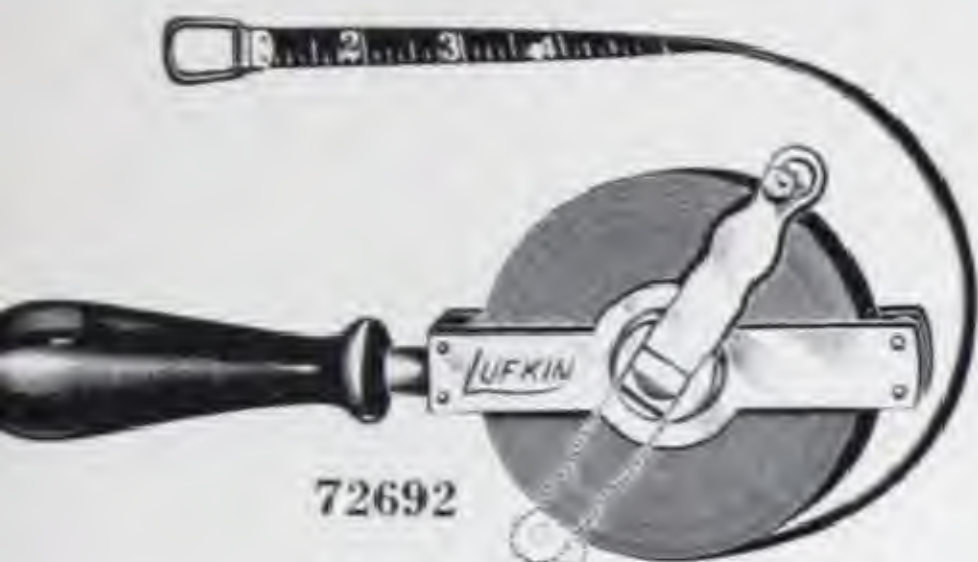
NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

LOCK HANDLE FRAME STEEL TAPES

Instantaneous Readings

"Nubian" Finish



Line of highest grade tape steel, clearly marked, with "Nubian" Finish and "Instantaneous" Readings. Ring attached. Substantial 2-arm metal frame. The lock handle is a long one-piece winding handle which, turned over, engages frame arms and locks the line at any point. It also gives extra leverage. Polished hardwood handle affords firm hold and is removable. Frame and its mountings heavily nickel plated.

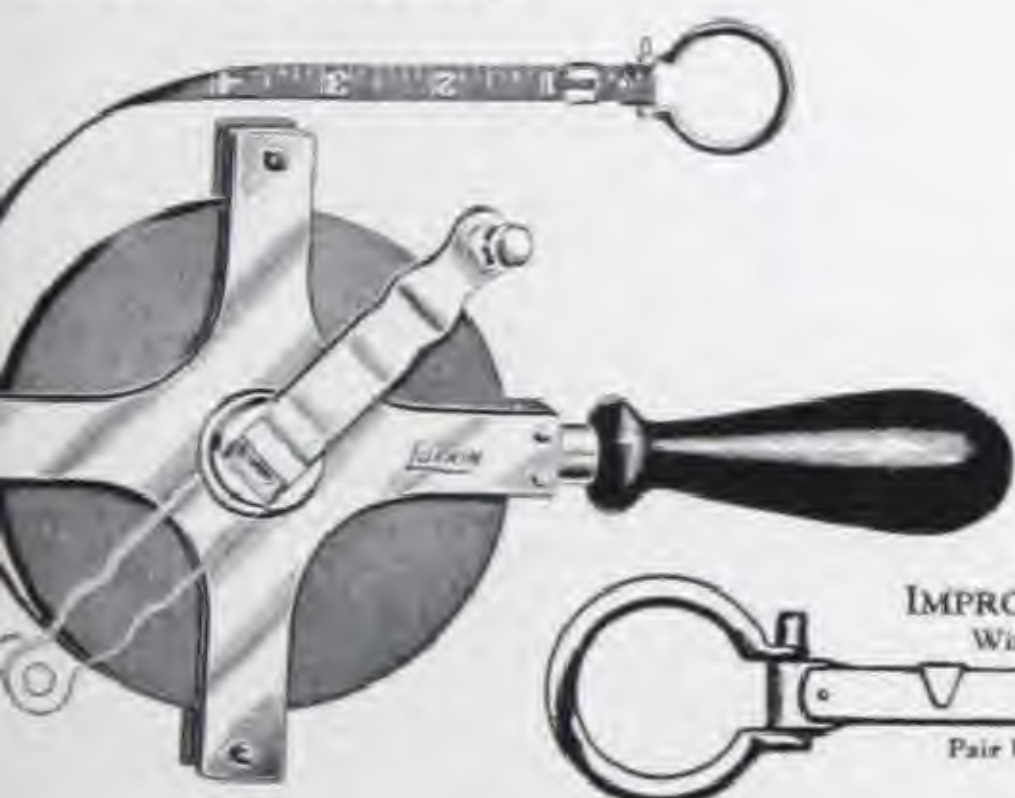
With Three-Eighths-Inch Standard Pattern Steel Tapes
On Folding Lock Handle Frame

| LENGTH IN FEET | 50 | 100 |
|--|---------|---------|
| 591 Graduated Feet, 10ths and 100ths | (1283D) | (1286D) |
| 592 Graduated Feet, Inches and 8ths | (1283) | (1286) |
| Can be furnished 1/2-inch wide with lock handle. (Prices quoted on application.) | | |

ENGINEERS' PATTERN FRAME STEEL TAPES

Instantaneous Readings

"Nubian" Finish



The Engineers' Pattern Tapes are 50% heavier than standard weight tapes described above. Zero falls at end of tape. The line is readily detached from frame and a pair of detachable rings is furnished. Metal frames are all of the 4-arm pattern, nickel plated, with hardwood handle and lock handle as described above.

IMPROVED (Patented) RING
With 3/8 Inch Tape Support

Pair Furnished with each Tape

(Tape Thickness—Approximately .012 Inch)

With Standard Weight Engineers' Pattern One-Quarter-Inch Tapes
Zero falling at end of line. With detachable rings

| LENGTH IN FEET | 50 | 100 | 200 |
|--------------------------------------|---------|---------|---------|
| 593 Graduated Feet, 10ths and 100ths | (1273D) | (1276D) | (1278D) |
| 594 Graduated Feet, Inches and 8ths | (1273) | (1276) | (1278) |

NOTE—Numbers shown in (—) are Lufkin numbers

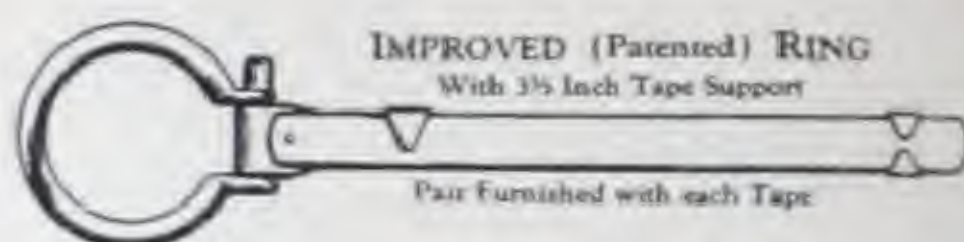
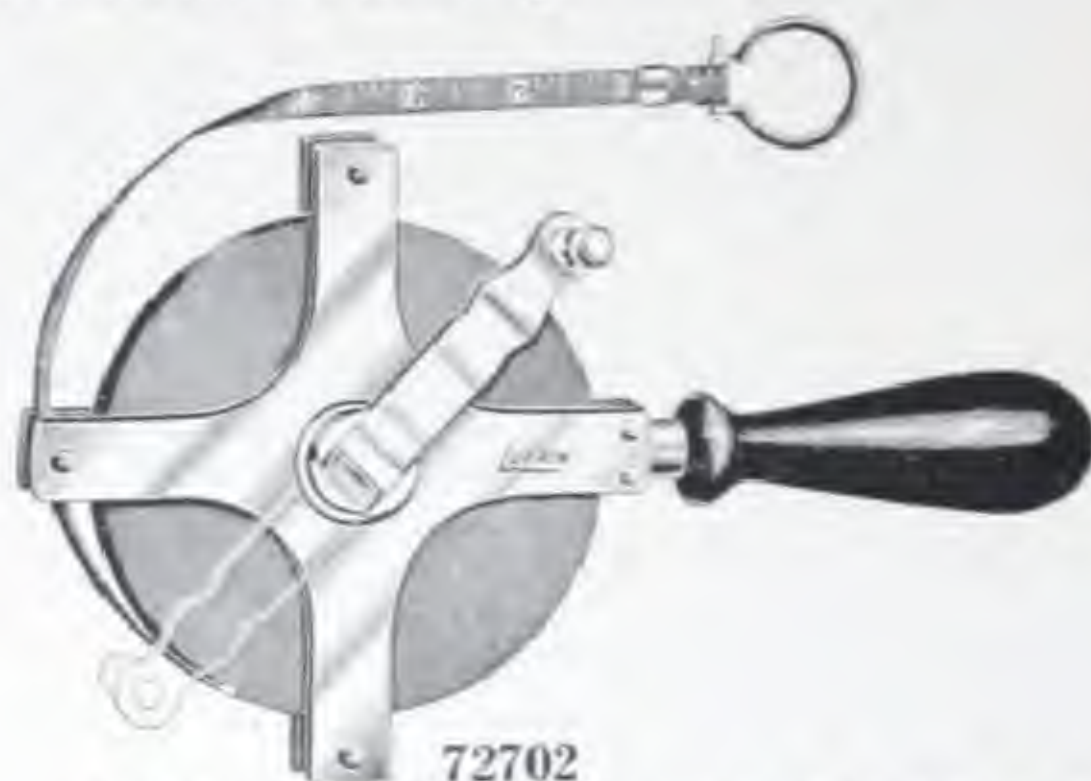
See Price List Inside Back Cover

EXTRA WEIGHT FRAME STEEL TAPES

These "Extra Weight" Tapes are of weight midway between what we know as our "Standard Weight" and our "Heavy" Engineers' Lines. Therefore they are of good flexibility, yet extra sturdy, and are designed for engineering, surveying, construction, highway and other heavy work.

Instantaneous Readings

"Nubian" Finish



Thickness .015

With "Extra Weight" $\frac{1}{4}$ -Inch Wide Steel Lines. 25% Heavier than Standard Engineers' Pattern Tape

| | LENGTH IN FEET | 50
(1273D-X) | 100
(1276D-X) | 200
(1278D-X) |
|-------|--|-----------------|------------------|------------------|
| 72701 | Graduated Feet, 10ths and 100ths. EACH | (1273-X) | (1276-X) | (1278-X) |
| 72702 | Graduated Feet, Inches and 8ths. EACH | | | |

"WESTERN" TAPE

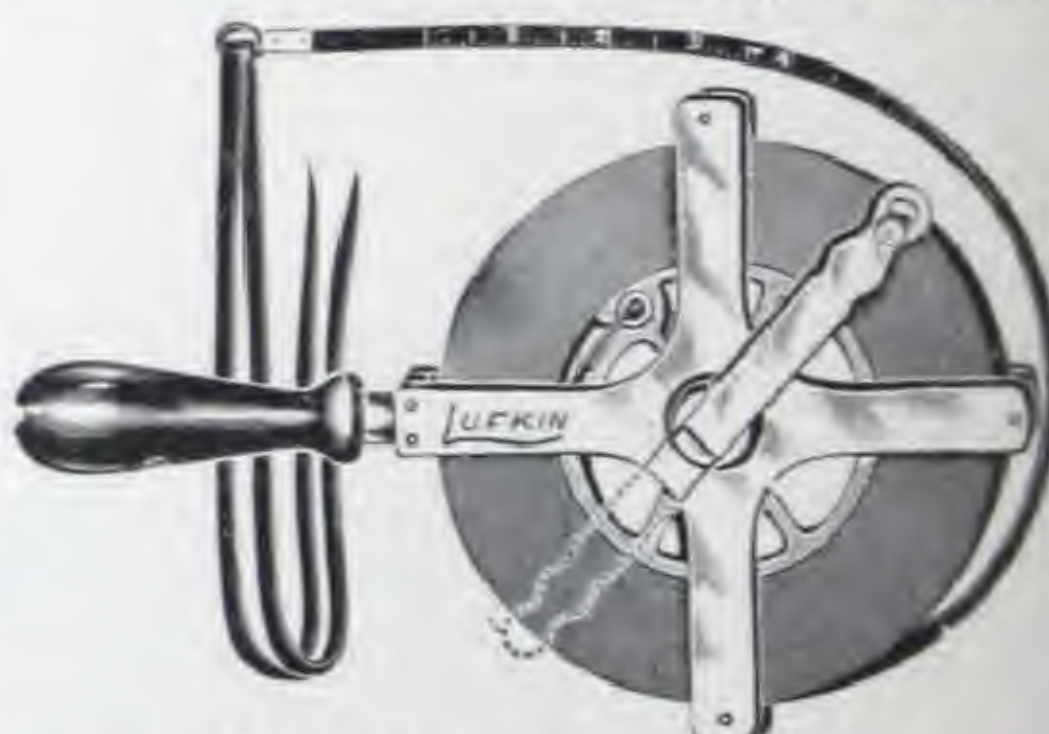
Instantaneous Readings

"Nubian" Finish

WITH HEAVY ONE-QUARTER-INCH
STEEL TAPE

An Extra Heavy Engineering Tape,
Graduated Entire Length to 10ths and
100ths of Feet

Thickness .020



This is a heavy duty tape for engineering and construction work, where extra durability and accuracy are desired.

The line is over 50% heavier than our standard weight Engineers' Pattern Tapes; is graduated to feet, 10ths and 100ths of feet, entire length and guaranteed accurate. Each end is fitted with heavy nickel-plated brass clip (eye), and has blank space. Line is easily removed from frame. Pair of leather thongs furnished with each tape.

The frame is substantial, four-arm pattern, of metal, nickel plated and has polished hardwood handle. It has Lock Winding Handle, which, turned over, engages the frame and holds the tape at any desired point. The long winding handle and knob and large drum shell give good grip, leverage and speed in winding.

| | | |
|-------|---|-----------|
| | WIDTH OF REEL, $7\frac{5}{8}$ INCHES | (1276DXX) |
| 72703 | Complete with Lock Handle Reel, 100 feet..... | EACH |

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

"WOLVERINE"

ENGINEERS' PATTERN

Instantaneous Readings

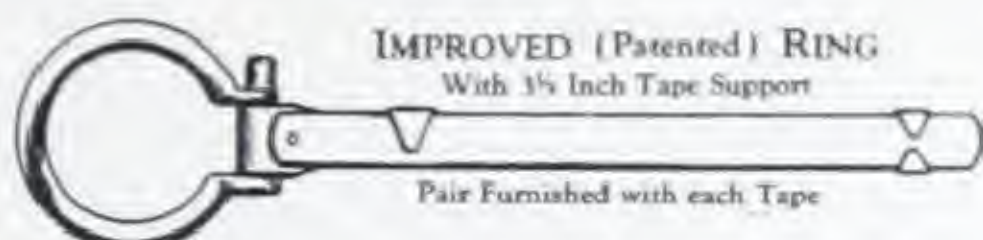
"Nubian" Finish



72711



72717



IMPROVED (Patented) RING
With 1/4 Inch Tape Support

Pair Furnished with each Tape

Both these tapes have Engineers' Pattern 1/4-inch lines, with zero at end of line and furnished with pair of detachable rings. The line is easily removed from reel or ring. This narrow, heavy line is preferred by many engineers, as it will stand harder than the 3/8-inch lines.

The "Wolverine" Reel is of a durable, light weight, rust-proof metal. Its perforated disk sides facilitate keeping line clean, and its cut-away sides allow locking ring on first end under a spring, preventing breakage. It has folding winding handle and adjustable strap handle. **Tape Thickness—Approximately .012 Inch**

With Standard Weight Engineers' Pattern One-Quarter-Inch Steel Tapes

- | | | |
|------------|--|------|
| 11 (1376D) | Graduated Feet, 10ths and 100ths—100 feet..... | EACH |
| 12 (1376) | Graduated Feet, Inches and 8ths—100 feet..... | EACH |

**ENGINEERS' HEAVY STEEL TAPES ON
"WOLVERINE" REEL**

Tape Thickness—Approximately .020 Inch

- | | | |
|--------------|--|------|
| 13 (1376DXX) | Graduated Feet, 10ths and 100ths—100 feet..... | EACH |
| 14 (1376XX) | Graduated Feet, Inches and 8ths—100 feet..... | EACH |

Tape Lines Only, Without Reel, With Thongs

- | | | |
|---------------|--|------|
| 15 (01376DXX) | Graduated Feet, 10ths and 100ths—100 feet..... | EACH |
| 16 (01376XX) | Graduated Feet, Inches and 8ths—100 feet..... | EACH |

LEATHER CASE

HAND STITCHED FOLDING FLUSH HANDLE

With Standard Weight Engineers' Pattern One-Quarter-Inch Steel Tapes

- | | | |
|-----------|--|------|
| 17 (236D) | Graduated Feet, 10ths and 100ths—100 feet..... | EACH |
| 18 (236) | Graduated Feet, Inches and 8ths—100 feet..... | EACH |

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

“RELIABLE” STEEL TAPES

Instantaneous Readings

“Nubian” Finish



72722 — 72724



72726

The “Reliable” Tapes are the finest made. The lines are of the best quality tape steel. The cases of specially selected materials throughout, genuine leather, hand-stitched with heavily-plated steel liners. Double-folding flush handles opened by pressing on opposite side.

With Three-Eighths-Inch Steel Tapes

| | | | | | |
|-------|--|-----------------|-----------------|-----------------|-----------------|
| | LENGTH IN FEET..... | 25 | 50 | 75 | 100 |
| | DIAMETER OF CASE, INCHES..... | 2 $\frac{1}{8}$ | 3 $\frac{3}{8}$ | 4 $\frac{1}{4}$ | 4 $\frac{1}{2}$ |
| | | (200D) | (203D) | (205D) | (206D) |
| 72721 | Graduated Feet, 10ths and 100ths... EACH | | | | |
| | | (200) | (203) | (205) | (206) |
| 72722 | Graduated Feet, Inches and 8ths... EACH | | | | |

With One-Half-Inch Steel Tapes

| | | | |
|-------|--|-----------------|-----------------|
| | LENGTH IN FEET..... | 50 | 100 |
| | DIAMETER OF CASE, INCHES..... | 3 $\frac{3}{8}$ | 4 $\frac{1}{2}$ |
| | | (303D) | (306D) |
| 72723 | Graduated Feet, 10ths and 100ths... EACH | | |
| | | (303) | (306) |
| 72724 | Graduated Feet, Inches and 8ths... EACH | | |

“RELIABLE JUNIOR” STEEL TAPES

A miniature “Reliable” Tape. This, while a $\frac{1}{4}$ -inch wide, light-weight tape, will give good service. It is about half the size and weight of the $\frac{3}{8}$ -inch “Reliable.”

With One-Quarter-Inch Steel Tapes

| | | | |
|-------|--|-----------------|-----------------|
| | LENGTH IN FEET..... | 25 | 50 |
| | DIAMETER OF CASES, INCHES..... | 2 $\frac{1}{2}$ | 2 $\frac{3}{4}$ |
| | | (100D) | (103D) |
| 72725 | Graduated Feet, 10ths and 100ths... EACH | | |
| | | (100) | (103) |
| 72726 | Graduated Feet, Inches and 16ths... EACH | | |

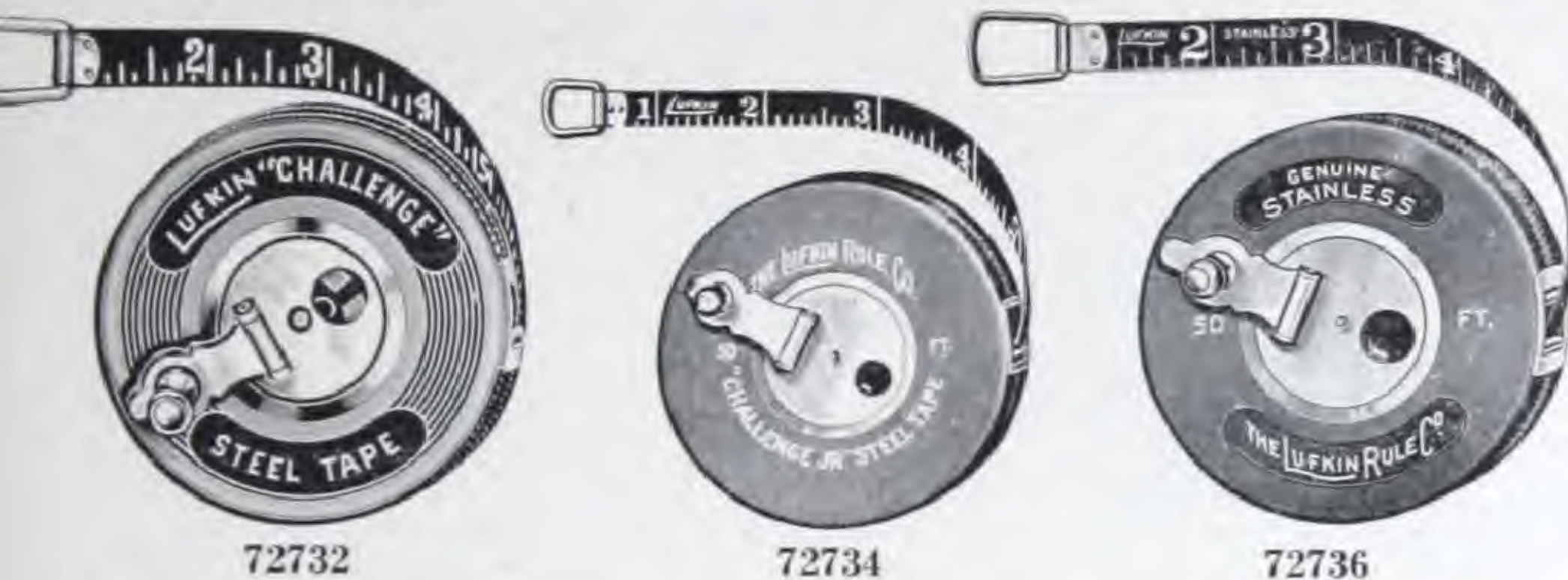
NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

"CHALLENGE" AND "CHALLENGE JUNIOR" STEEL TAPES

Instantaneous Readings

"Nubian" Finish



"Challenge" Tapes have genuine leather, hand-stitched cases with plated metal liners. Folding flush handle opened by pressing pin on opposite side.

With Three-Eighths-Inch Steel Tapes

| | | | |
|---|--------|--------|--------|
| LENGTH IN FEET..... | 25 | 50 | 100 |
| DIAMETER OF CASE, INCHES..... | 2 7/8 | 3 3/8 | 4 1/2 |
| | (260D) | (263D) | (266D) |
| 731 Graduated Feet, 10ths and 100ths.....EACH | (260) | (263) | (266) |
| 732 Graduated Feet, Inches and 8ths.....EACH | | | |

"Challenge Junior" Tapes are similar to the "Challenge," only about half its size and weight.

With One-Quarter-Inch Steel Tapes

| | | |
|---|---------|---------|
| LENGTH IN FEET..... | 25 | 50 |
| DIAMETER OF CASE, INCHES..... | 2 1/2 | 2 7/8 |
| | (1260D) | (1263D) |
| 733 Graduated Feet, 10ths and 100ths.....EACH | (1260) | (1263) |
| 734 Graduated Feet, Inches and 8ths.....EACH | | |

STAINLESS STEEL TAPES

Rust Proof

("Challenge" Pattern)

Non-Corrosive

These are standard weight lines of Stainless Steel, rust-proof and non-corrosive, with cases identical with the "Challenge." Only Genuine Stainless Steel of the particular analysis found best for measuring tapes is used. In temper it approaches standard pe steel. It holds its shape, and hence its accuracy, better than other rust-proof materials such as phosphor bronze and monel metal.

The lines are clearly marked and have "Instantaneous" Readings and "Nubian" finish. The cases are of brown, selected, genuine leather, closely hand-stitched, and have substantial plated steel liners. Folding flush handle is opened by pressing pin on opposite side. Mountings nickel plated. Measurements guaranteed accurate.

With Three-Eighths-Inch Stainless Steel Tape

| | | | |
|---|---------|---------|---------|
| LENGTH IN FEET..... | 25 | 50 | 100 |
| | (S260D) | (S263D) | (S266D) |
| 735 Graduated Feet, 10ths and 100ths.....EACH | (S260) | (S263) | (S266) |
| 736 Graduated Feet, Inches and 8ths.....EACH | | | |

NOTE: We can also supply our 3/8 and 1/2-inch "Reliable" and Frame Tapes in Stainless Steel.

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

STEEL TAPES

Instantaneous Readings
"RIVAL"



72742

"Nubian" Finish
"UNIVERSAL"



72743

"Rival" Tapes have nickel plated steel cases with knurled edges. Folding flush handle opened by pressing pin on opposite side.

With Three-Eighths-Inch Steel Tapes

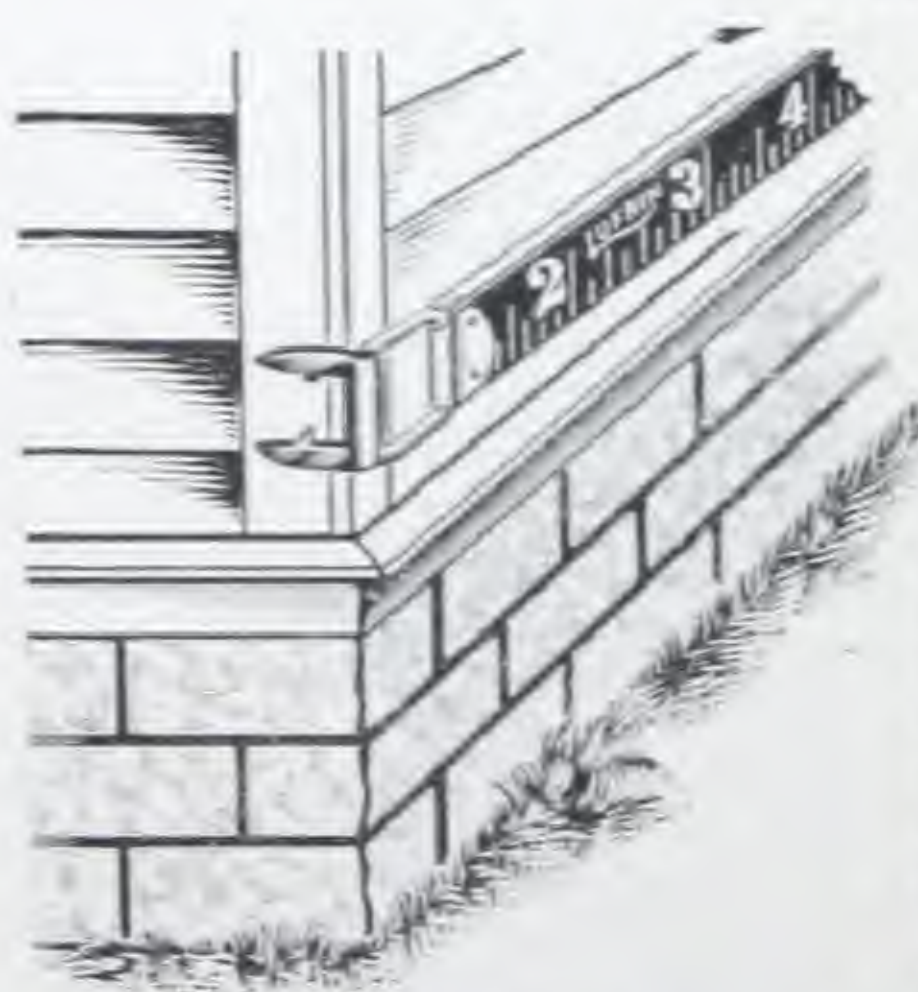
| | | | |
|---|--------|--------|--------|
| Length in feet..... | 25 | 50 | 100 |
| Diameter of case, inches..... | 2 3/4 | 3 1/4 | 4 1/4 |
| | (240D) | (243D) | (246D) |
| 72741 Graduated Feet, 10ths and 100ths, each..... | (240) | (243) | (246) |
| 72742 Graduated Feet, Inches and 8ths, each..... | | | |

"Universal" Tapes have metal-lined cases, covered with black "Keratol" with 3/8-inch wide, flat, flush, nickel-plated edge band. Folding flush handle.

With Three-Eighths-Inch Steel Tape

| | | | |
|---|-------|-------|-------|
| LENGTH IN FEET..... | 25 | 50 | 100 |
| | (540) | (543) | (546) |
| 72743 Graduated Feet, Inches and 8ths..... EACH | | | |

HOOK-RING ON 3/8-INCH STEEL TAPES NOT DETACHABLE



Position of Hook When Not in Use

Any 3/8-inch wide steel tapes can be supplied with this riveted-on Hook-Ring. Zero falls at inside of open hook. This steel hook has two prongs, each with anchor spur. It takes a firm, square hold, yet releases itself. It folds and holds itself flat and thus measurements can be taken without hook and then also it will not catch objects or prevent winding line completely into case. Tapes with Hook-Ring should be ordered as "H-203 Reliable," "H-263 Challenge," etc.

EXTRA PER TAPE

72744 Hook-Ring on 3/8-inch Steel Tapes

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

"CHALLENGE" TREE TAPES



Instantaneous
Readings

"Nubian"
Finish

72751

Give at Direct Reading Diameter as Well as Circumference of the Tree

Used by the United States Forest Service, as well as by private foresters, and in
 ger schools, etc. Three-eighths inch wide highest grade steel line in "Nubian" Finish.
 marked on front side standard feet, 10ths and 100ths of feet, "Instantaneous" Readings;
 other side diameter equivalents of circumferences in diameter feet, inches and 10ths of
 inches. First end has blank space and is fitted with tree peg or spike, which folds down
 for convenience in carrying. Case same as the "Challenge," of brown, selected, genuine
 leather, with plated steel liner and with folding flush handle opened by push pin.

LENGTH IN FEET 33 50
 (261-TP) (263-TP)

751 Graduated feet, 10ths and 100ths one side; other side
 diameter reading in feet, inches and 10ths of inches.
 each

SPRING WIND POCKET STEEL TAPES



72752 — 72753

"Nubian"
Finish



72755 — 72756

Nickel-plated brass cases, spring wind, center stop
 With One-Quarter-Inch Steel Tapes

| | | | | | |
|---|---------|---------|---------|---------|-------|
| | | (143) | (145) | (146) | (148) |
| LENGTH IN INCHES..... | | 36 | 60 | 72 | 96 |
| 752 Graduated one side, Inches and 16ths, each | | | | | |
| 753 Graduated one side, Inches and 16ths, other | (143D) | (145D) | (146D) | (148D) | |
| side Feet, 10ths and 100ths, each..... | | | | | |
| 754 Graduated one side, Inches and 16ths, | (143EM) | (145EM) | (146EM) | (148EM) | |
| millimetres other side, each..... | | | | | |

With Architects' Scales

| | | |
|-----|---|-----------------|
| 755 | 1/8 Scale, 1 to 480 one side; inches to 16ths other side, 60 inch | (391) each |
| 756 | 1/4 Scale, 1 to 240 one side; inches to 16ths other side, 60 inch | (392) each |
| 757 | 1/8 Scale one side; 1/4 Scale other side; 60 inch | (393) each..... |

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

"RED END" RULES



Hook Open



Hook Closed

Highest grade Spring Joint Rules on the market; of superior quality and finish, and most striking appearance.

Sections of selected hardwood. Joints of solid brass, firm, smooth working, rust proof. The rules also have brass strike plates on each section, preventing wear on markings in opening and closing.

All "Red End" Rules have a special high gloss enamel finish, durable, crack and chip proof. The snow white and the cream-enameled rules have a thoroughly well finished appearance. All ends are gloss red, attracting notice and setting off the rules from all common types.

We list these rules below with and without Folding End Hook. The hook is just the thing for taking measurements out of arms reach. It is of metal and will fold and hold out of the way when not wanted. Zero falls at inside of hook when hook is open, at extreme end of rule when hook is folded up.

Marked Consecutive Inches to 16ths, Both Edges of Both Sides Without Hook

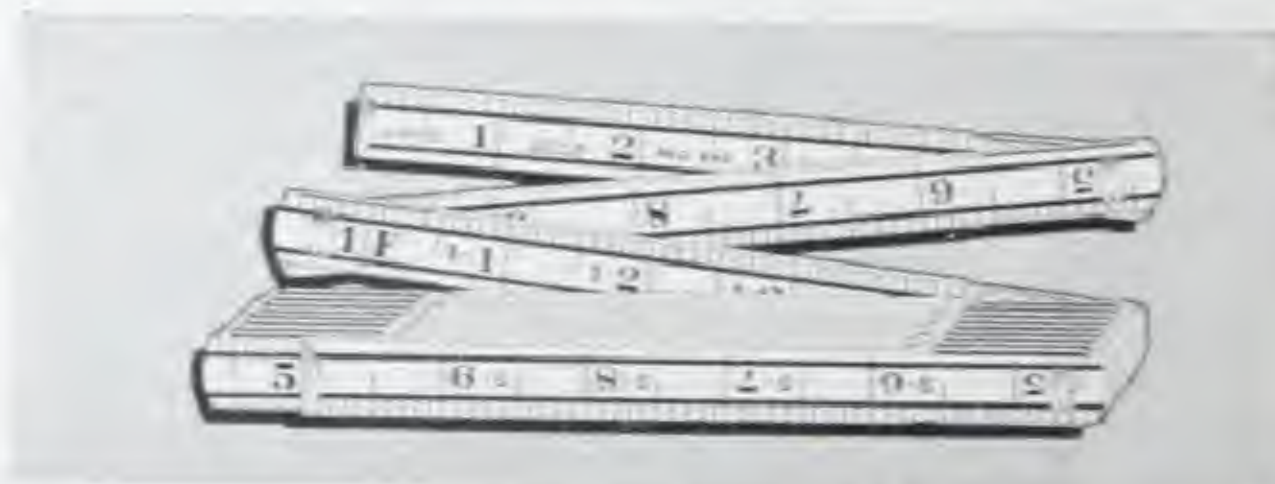
| White Enameled | | Cream Enameled | |
|----------------|---------------|----------------|---------------|
| | Each Per Doz. | | Each Per Doz. |
| 72761 5 ft | | 72764 5 ft | |
| 72762 6 ft | | 72765 6 ft | |
| 72763 8 ft | | 72766 8 ft | |

With Folding Hook

| | Each Per Doz. | | Each Per Doz. |
|------------|---------------|------------|---------------|
| 72767 6 ft | | 72768 6 ft | |

"RED END" RULES (ENGINEERS GRADUATIONS)

Flexible
Six-Inch
Folds
 $\frac{5}{8}$ Inch Wide



Solid Brass
Trimmings
Patented
Lock
Joints

Engineers, Surveyors and Road Builders Rules

Meet the demand for a Superior 6-foot Wood Rule in Engineers Graduation

Marked Feet, 10ths and 100ths of Feet on Inside;

Feet, Inches and 16ths on Outside

Instantaneous Readings (foot numbers in red, repeated each 10th and each inch)

| | Each | Per Doz. |
|--------------------------------------|------|----------|
| 72769 "Red End" 6 ft. White Enameled | | |

See Price List Inside Back Cover

FOLDING EXTENSION RULES

Particularly designed for taking inside measurements in openings, such as door and window frames, building joints and all such inside measurements as are difficult to take with the ordinary folding rule. Serves also for the purpose of a common rule in ordinary work.

The first section of the rule is fitted with a six-inch graduated brass slide which cannot fall out as it is securely locked at both ends. To take inside measurements, open rule to within six inches or less of distance between points to be measured. Extend brass slide by push button to point of measurement. Read measurement on brass slide to that shown at extreme end of rule, which will give exact distance between points.

Rules made of selected hardwood in boxwood finish, a uniform, light color, making black markings easy to read. Equipped with strike plates (small brass plate both ends of each section), which prevent wear on markings in opening and closing. Have tight joints which reduce end play, so maintain accuracy. Ends brass capped.

Rule Marked Consecutive Inches to 16ths, Both Sides

Brass Extension Slide Marked Inches to 16ths

All Sections of extra weight, 1/8-inch thick

Extra Rigid . . . Especially desirable in measuring openings.

Extra Durable . . . Valuable in any type of work.

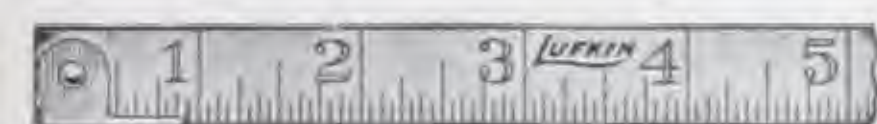
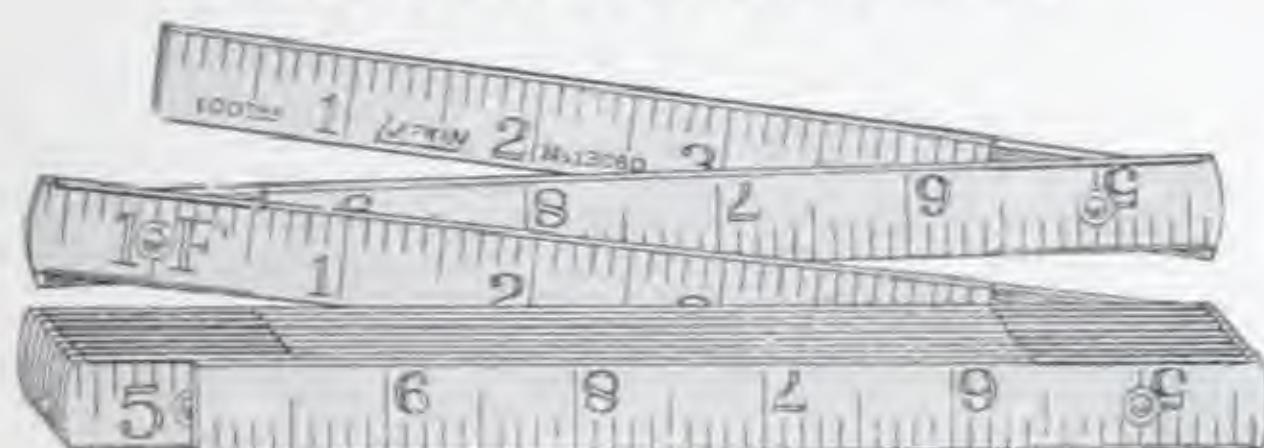
EACH PER DOZ.

- 71 6 foot Extension Rule
72 6 foot Extension Rule with folding hook

ALUMINUM RULES

9-Inch Folds

9/16 Inch Wide



HOOK CLOSED



HOOK OPEN

These Aluminum Rules, being of a special hardness, are durable and hold their shape well. Having solid brass joints, they are rust-proof throughout. The spring joints are of the rivet type. The surface of the rule is in natural color, with sunken graduations and figures in black, showing up distinctly.

Marked Feet, 10ths and 100ths of Feet, One Side;
Feet, Inches and 16ths Other Side

Without Hook

EACH PER DOZ.

With Folding Hook

EACH PER DOZ.

- 773 6 ft. 72774 6 ft.

Marked Consecutive Inches to 16ths, Both Sides

Without Hook

EACH PER DOZ.

With Folding Hook

EACH PER DOZ.

- 775 4 ft. 72777 6 ft.
776 6 ft.

See Price List Inside Back Cover

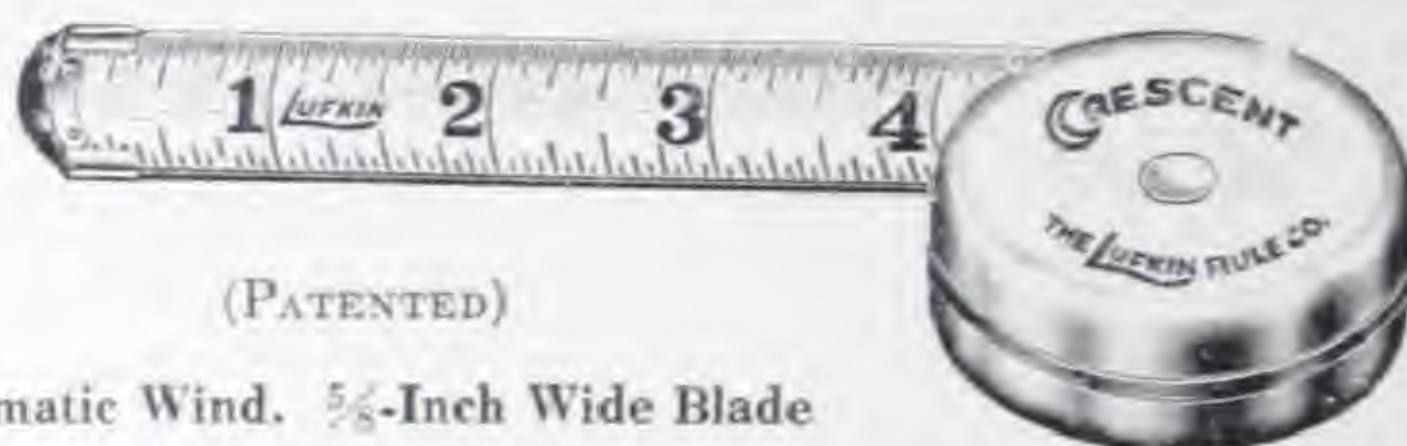


TAPE RULES

Marked One Side Only

Steel blade is stiffened by concave forming, so it can be projected unsupported, like a rule, to walls, ceilings, or into openings. Yet it will also flex to accurately measure circles and odd shapes. Blade is nickel plated and markings are prominent and dark in sharp contrast, hence easy to read.

Sliding end hook (patented) is one of the distinctive features of the "Crescent." This hook automatically adjusts itself to accurately take either butt end or hook measurement. Hook pushed back serves as a gage, indicating and holding the measurement. With hook pushed back, blade may be inserted in a narrower opening than hook would enter.

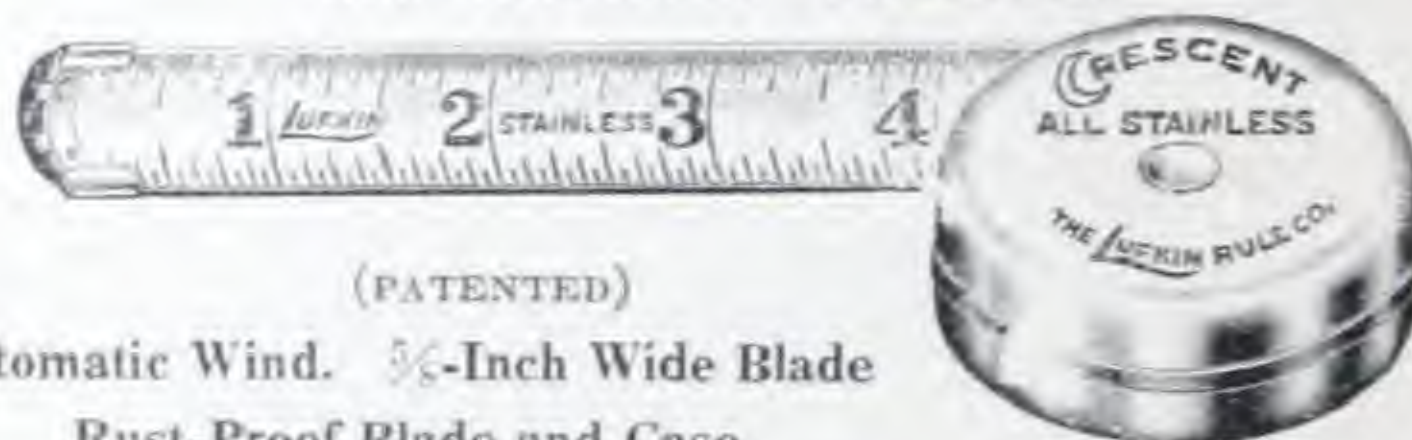


(PATENTED)

Automatic Wind. $\frac{5}{8}$ -Inch Wide Blade

- | | | |
|-------|---|------|
| 72781 | Crescent, 72 inch—Inches to 16ths, both edges.
(First 6 inches upper edge to 32nds) | EACH |
| 72782 | Crescent, 6 foot—Feet, 10ths and 100ths of feet upper edge.
Feet, inches and 16ths lower edge | |
| 72783 | Crescent, 78 $\frac{3}{4}$ inch—Millimeters on upper edge.
(2 meters) Inches to 16ths lower edge | |

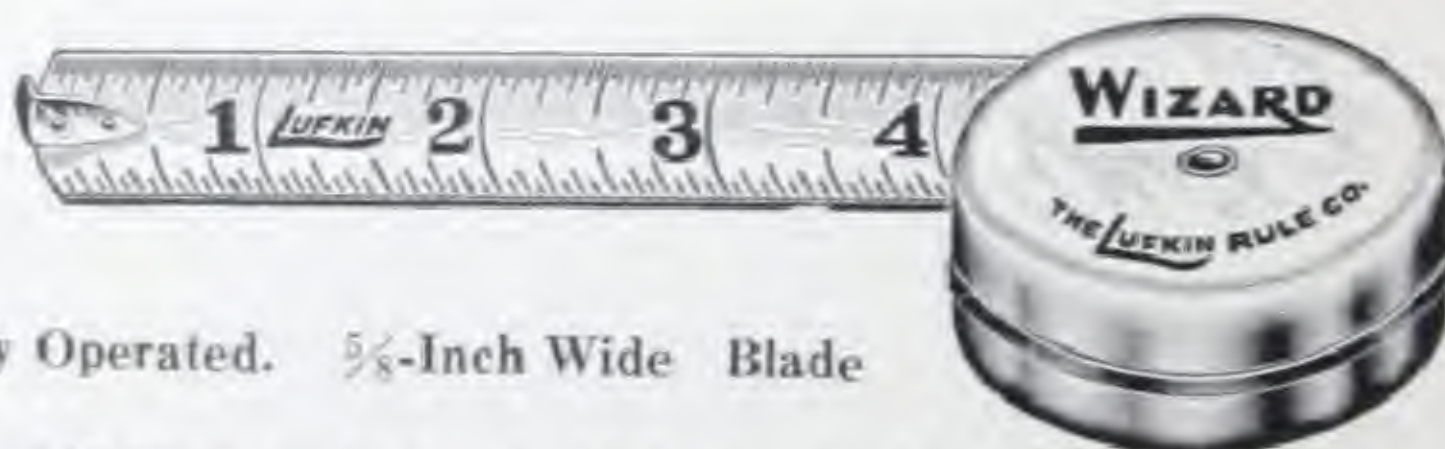
"ALL STAINLESS" CRESCENT



(PATENTED)

Automatic Wind. $\frac{5}{8}$ -Inch Wide Blade
Rust-Proof Blade and Case

- | | | |
|-------|---|------|
| 72784 | Crescent Stainless, 72 inch—Inches to 16ths, both edges.
(First 6 inches upper edge to 32nds) | EACH |
| 72785 | Crescent Stainless, 6 foot—Feet, 10ths and 100ths of feet upper edge.
Feet, inches and 16ths on lower edge | |



Manually Operated. $\frac{5}{8}$ -Inch Wide Blade

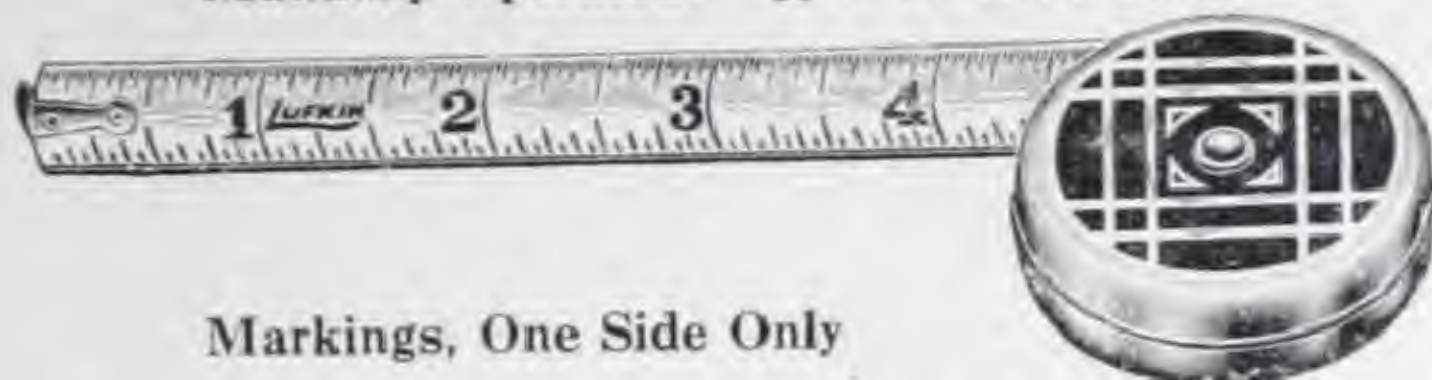
- | | | |
|-------|---|------|
| 72786 | "Wizard" 72 inch - Inches to 16ths, both edges
(First 6 inches upper edge to 32nds) | EACH |
| 72787 | "Wizard" 96 inch - Inches to 16ths, both edges
(First 6 inches upper edge to 32nds) | |
| 72788 | "Wizard" 120 inch - Inches to 16ths, both edges
(First 6 inches upper edge to 32nds) | |
| 72789 | "Wizard" 6 foot - Feet, 10ths and 100ths of feet upper edge.
Feet, Inches and 16ths lower edge | |

See Price List Inside Back Cover

TAPE RULES

"ARISTOCRAT"

Manually Operated. $\frac{7}{16}$ Inch Wide Blade

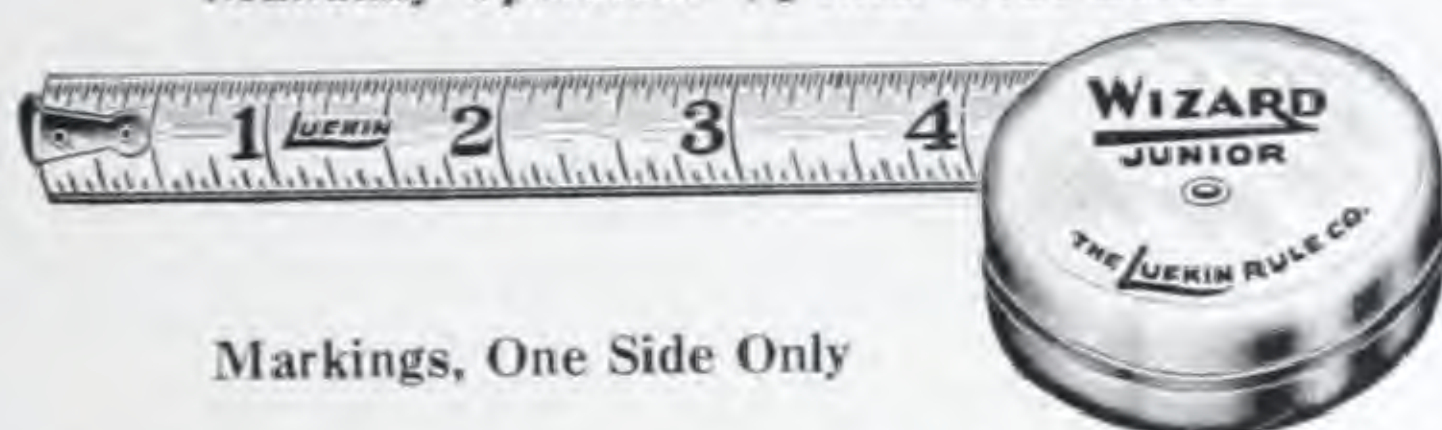


Markings, One Side Only

- 791 Aristocrat, 72 inch—Inches to 16ths, both edges. (First 6 inches upper edge to 32nds)..... EACH
- 792 Aristocrat, 6 foot—Feet, 10ths and 100ths of feet upper edge. Feet, inches and 16ths on lower edge.....
- 793 Aristocrat, 78 $\frac{3}{4}$ inch—Millimeters on upper edge. 78 $\frac{3}{4}$ inch (2 meters) Inches to 16ths lower edge.....

"WIZARD" JUNIOR

Manually Operated. $\frac{1}{2}$ Inch Wide Blade



Markings, One Side Only

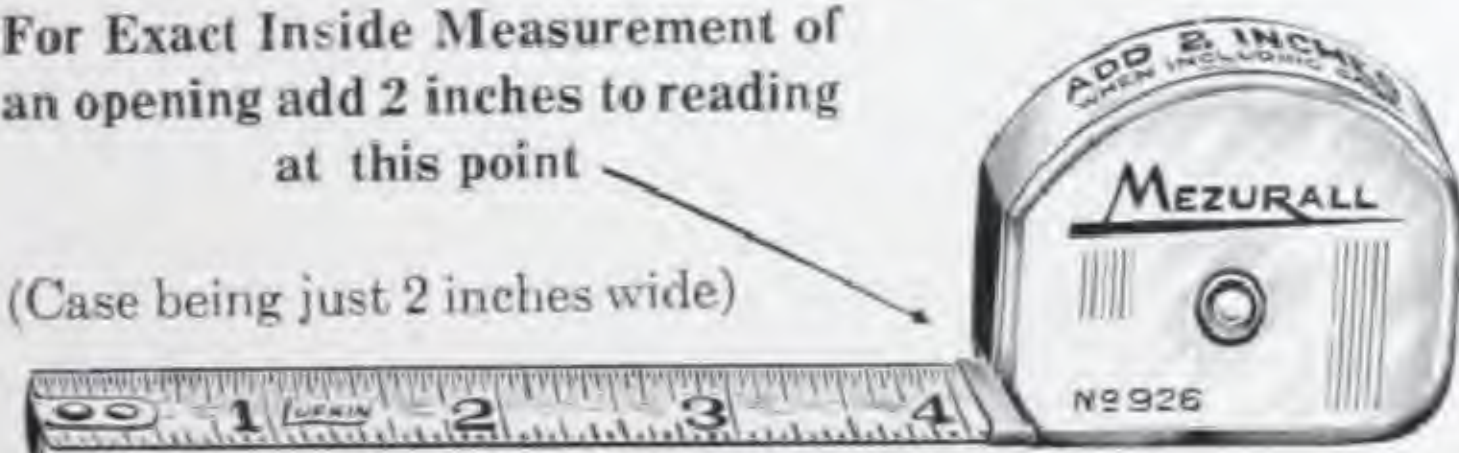
- 794 Wizard, Jr., 72 inch—Inches to 16ths, both edges. First 6 inches upper edge to 32nds..... EACH
- 795 Wizard, Jr., 96 inch—Inches to 16ths, both edges. First 6 inches upper edge to 32nds.....

"MEZURALL"

Manually Operated. $\frac{1}{2}$ Inch Wide Blade

For Exact Inside Measurement of an opening add 2 inches to reading at this point

(Case being just 2 inches wide)



To take an inside measurement:
 Put square back edge of case against one side of opening being measured.
 Extend the blade to the other limit.
 Add 2 inches to the reading clearly indicated at the square opening of the case, as illustrated (case being 2 inches wide).
 This instruction is clearly stamped on the case itself.)

- 796 Mezurall, 72 inch—Blade marked one side, both edges, inches to 16ths. (First 6 inches upper edge to 32nds)..... EACH
- 797 Mezurall, 72 inch—Blade marked both sides, both edges, inches to 16ths. (First 6 inches upper edges to 32nds).....

See Price List Inside Back Cover

TAPE HOOKS AND CLAMP HANDLES

Tape hooks are easily attached to our steel tapes with standard end ring. When attached to tapes measuring from end of ring zero falls at inside of hook.



728003

- | | | |
|--------|--|------|
| 728001 | Tape Hook for $\frac{1}{2}$ -inch tapes..... | EACH |
| 728002 | Tape Hook for $\frac{3}{8}$ -inch tapes..... | |
| 728003 | Tape Hook for $\frac{1}{4}$ -inch tapes..... | |

CLAMP HANDLES

For gripping a steel tape at any point so tension can be readily applied and held. Made of brass, nickel plated. Properly used will not damage tape in any way.

- 728004 Clamp Handle.....EACH



728004

TENSION HANDLE

For applying and determining the exact tension applied to any tape. Used on steel tapes in precise work to insure uniformity of results. Made of brass, nickel plated. Readings to one-half pounds

- 728005 Capacity 30 lbs.....EACH



728005

PLUMB BOBS FOR STEEL TAPES

These Plumb Bobs are extensively used for tank gaging. (Tapes used with them are cut to include bob in measurement, i. e., so zero falls at lower end of bob.)

- 728006 is a 6-ounce, solid brass bob, cone shaped; a weight suitable for the lighter oils, gasoline, etc.

728007 is a 14-ounce, enameled iron bob, 3-legged, and is interchangeable with 728006, being same length.

728008 is a 20-ounce, solid brass bob, round, with tapered point, and will penetrate heavy oils, etc.

728009 is exactly same as 728008 except graduated inches to 8ths, reading upward, i.e., zero falling at lower end of point.

728010 and 728011 are brass bobs, identical with 728006 and 728008, except having removable tip (screw tip) made of "Ampco" metal. "Ampco" is similar to brass but harder.



728006



728007



728008

| | WT. EACH | LENGTH | DIAMETER | EACH |
|-----------------------|-----------|----------------------|----------------------|------|
| 728006 Plumb Bob..... | 6 ounces | 2 $\frac{3}{8}$ inch | 1 $\frac{1}{4}$ inch | |
| 728007 Plumb Bob..... | 14 ounces | 2 $\frac{3}{8}$ inch | 2 $\frac{3}{8}$ inch | |
| 728008 Plumb Bob..... | 20 ounces | 6 $\frac{3}{4}$ inch | 1 inch | |
| 728009 Plumb Bob..... | 20 ounces | 6 $\frac{3}{4}$ inch | 1 inch | |
| 728010 Plumb Bob..... | 6 ounces | 2 $\frac{3}{8}$ inch | 1 $\frac{1}{4}$ inch | |
| 728011 Plumb Bob..... | 20 ounces | 6 $\frac{3}{4}$ inch | 1 inch | |

OUTAGE PLUMB BOB

Designed for determining tank outage rather than contents. Outage gaging is most common for ship tanks and related work.

Bob No. 728012 is of solid brass, $\frac{3}{4}$ inch square. It has inserted black strip in dull finish, holding and making oil line most readable. It is graduated to 16ths inch, with inches numbered from top to bottom, zero point falling at inside of top of eye. (Tapes used with this bob have zero falling at inside of outer end of snap; hence adding oil line measurement on bob to tape reading, gives total outage.)

- | | | | | | |
|--------|-----------------------|-----------------------|------------------|--|------|
| 728012 | Outage Plumb Bob..... | WT. EACH
16 ounces | LENGTH
7 inch | DIAMETER
$\frac{3}{4}$ inch, square | EACH |
|--------|-----------------------|-----------------------|------------------|--|------|

See Price List Inside Back Cover



STEEL TAPE REFILLS

$\frac{1}{4}$ Inch Wide, Light Weight "Junior" Refills

1 For "Reliable Jr." and "Challenge Jr."

| | | | |
|--------------------|------|----|----|
| TH, FEET..... | 25 | 33 | 50 |
| TH, METERS..... | | 10 | 15 |
| ed one side..... | EACH | | |
| ed both sides..... | EACH | | |

2 $\frac{1}{4}$ by .012 Engineers "Standard Weight" Refills. (With detachable rings)
Series 233, 1373, 273 and 1273, also D and ME.

| | | | | | | |
|--------------------|------|-----|-----|-----|-----|-----|
| TH, FEET..... | 50 | 100 | 150 | 164 | 200 | 300 |
| TH, METERS..... | 15 | 20 | 25 | 30 | 50 | ... |
| ed one side..... | EACH | | | | | |
| ed both sides..... | EACH | | | | | |

3 $\frac{1}{4}$ by .015 Inch Engineers "Extra Weight" Refills. (With detachable rings)
Series 233-X, 1373-X and 1273-X, also D and ME.

| | | |
|--------------------|------|-----|
| TH, FEET..... | 50 | 100 |
| TH, METERS..... | 15 | 30 |
| ed one side..... | EACH | |
| ed both sides..... | EACH | |

$\frac{1}{4}$ by .020 Inch Engineers "Heavy" Refills or Lines Only

Are Listed on pages 268, 270 and 271 with corresponding tapes complete

$\frac{3}{8}$ Inch Wide Steel Tape Refills

4 For Series 200 "Reliable," 260 "Challenge," 283 and 1283 Frame Tapes, also D and ME

| | | | | | | | | | | | |
|-----------------|------|-----------------|----|----|----|----|----|-----|-----|-----|-----|
| TH, FEET..... | 15 | 25 | 33 | 50 | 66 | 75 | 82 | 100 | 150 | 164 | 200 |
| TH, METERS..... | 5 | 7 $\frac{1}{2}$ | 10 | 15 | 20 | 22 | 25 | 30 | ... | 50 | ... |
| ed one side.... | EACH | | | | | | | | | | |
| ed both sides.. | EACH | | | | | | | | | | |

$\frac{1}{2}$ Inch Wide Steel Tape Refills

5 For Series 300 "Reliable," 360 "Challenge," 1293 Frame Tapes, also D and ME.

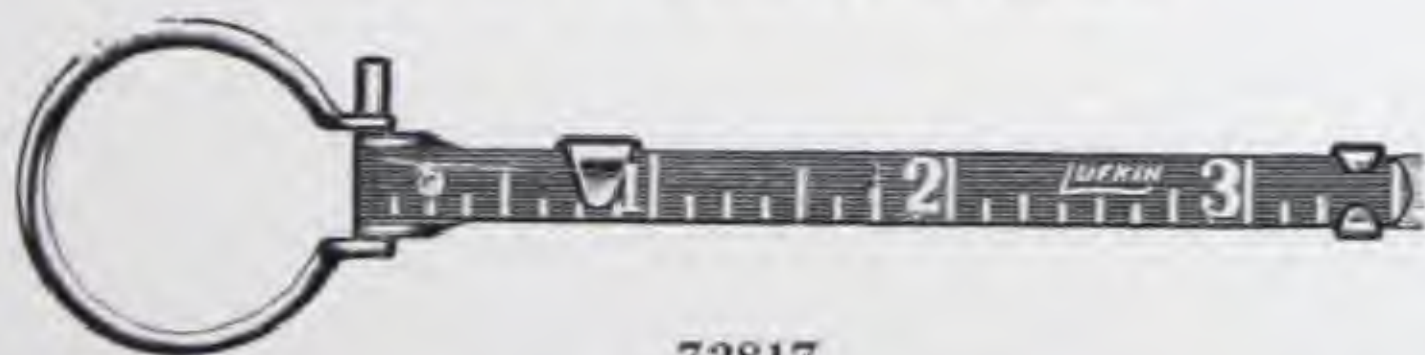
| | | | | | | | | | |
|--------------------|-----------------|----|----|----|----|----|-----|-----|-----|
| TH, FEET..... | 25 | 33 | 50 | 66 | 75 | 82 | 100 | 150 | 164 |
| TH, METERS..... | 7 $\frac{1}{2}$ | 10 | 15 | 20 | 22 | 25 | 30 | ... | 50 |
| ed one side..... | EACH | | | | | | | | |
| ed both sides..... | EACH | | | | | | | | |

$\frac{3}{8}$ Inch Wide Stainless Steel Tape Refills

6 For Series S-260, also D and ME, and same stainless tapes of other series.

| | | | | | |
|--------------------|-----------------|----|----|----|-----|
| TH, FEET..... | 25 | 50 | 75 | 82 | 100 |
| TH, METERS..... | 7 $\frac{1}{2}$ | 15 | .. | 25 | 30 |
| ed one side..... | EACH | | | | |
| ed both sides..... | EACH | | | | |

TAPE ACCESSORIES

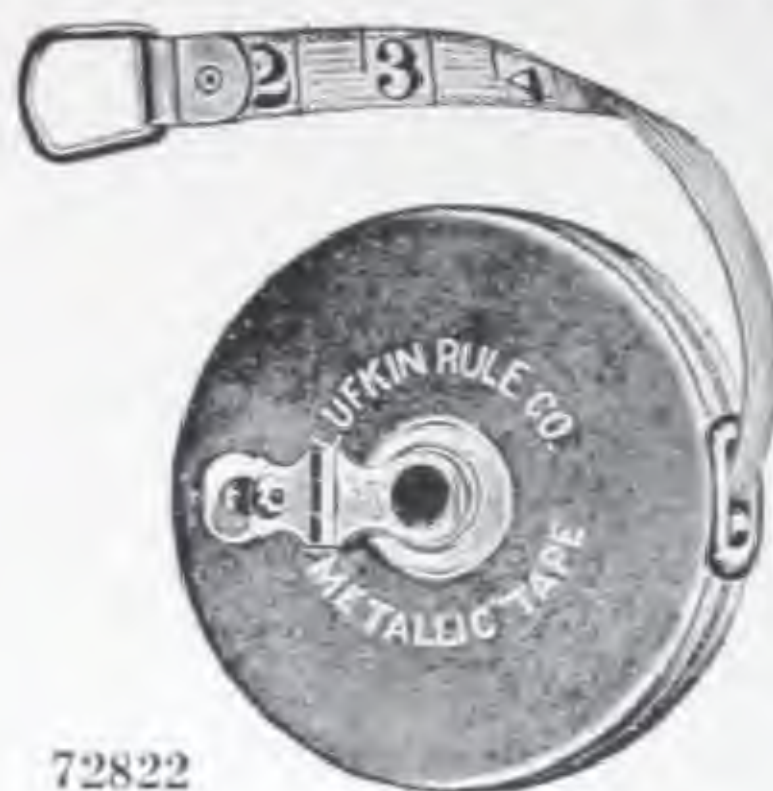


72817

Improved Detachable Ring for $\frac{1}{4}$ inch Engineers Pattern Tapes, having a flexible 3 $\frac{1}{2}$ " extension which prevents sharp kinks and breaks. EACH
Tape Finger, for attaching Engineers Pattern Tapes to inner drum..... EACH
Rawhide Thongs..... PAIR

See Price List Inside Back Cover

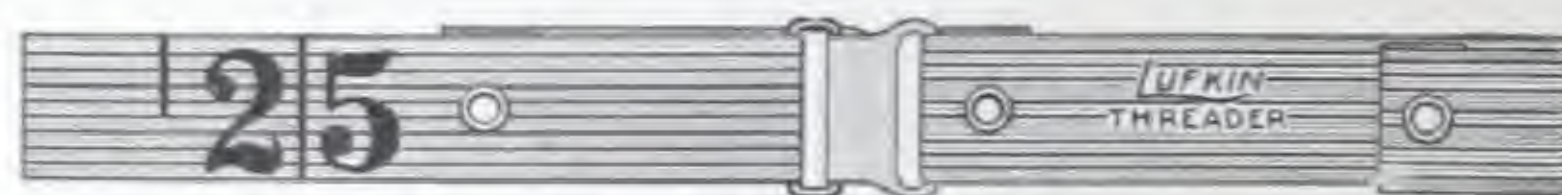
METALLIC TAPES



72822

Highest Grade Woven Tape

Lufkin Improved Metallic Tapes of best woven linen with metallic warp. It has leather reinforcements first end. These tapes are woven, coated and marked by the most approved methods to insure satisfactory service. The cases are of genuine leather, handstitched with metal liner. Patent threader, shown below, makes removal of old line and attaching of new line simple.



With Five-Eighths-Inch Metallic Tapes With Folding Handle

| LENGTH IN FEET | | 25 | 50 | 100 |
|----------------|---|--------|--------|--------|
| | | (500D) | (503D) | (506D) |
| 72821 | Marked Feet and 10ths, half tenths ft. . . . EACH | (500) | (503) | (506) |
| 72822 | Marked Feet and Inches, half inches. . . . EACH | | | |

Lufkin Metallic Tapes $\frac{5}{8}$ Inches Wide Without Cases

| LENGTH IN FEET | | 25 | 50 | 100 |
|----------------|---|---------|---------|---------|
| | | (0500D) | (0503D) | (0506D) |
| 72823 | Marked Feet and 10ths, half tenths ft. . EACH | (0500) | (0503) | (0506) |
| 72824 | Marked Feet and Inches, half inches. . . EACH | | | |



72826

“JUNIOR METALLIC” TAPE

The “Junior Metallic” is about half the size and weight of our $\frac{5}{8}$ -inch Metallic Tapes. Case has folding flush handle opened by pressing pin on opposite side. Same general description as $\frac{5}{8}$ -inch lines.

With Seven-Sixteenths-Inch Metallic Tape

| | | |
|--------------------------------|----|-----------------|
| LENGTH IN FEET..... | 25 | 50 |
| DIAMETER OF CASES, INCHES..... | 3 | 3 $\frac{3}{4}$ |

72826

| | | | | |
|--------------------------|--|------|---------|---------|
| 72825 | Marked Feet and 10ths, 100ths ft | EACH | (660D) | (663D) |
| 72826 | Marked Feet and Inches, eighths | EACH | (660) | (663) |
| Lines Only Without Cases | | | | |
| 72827 | Marked Feet and 10ths, 100ths ft | EACH | (0660D) | (0663D) |
| 72828 | Marked Feet and Inches, eighths | EACH | (0660) | (0663) |

NOTE—Numbers shown in (—) are Lufkin numbers
See Price List Inside Back Cover

STERLING" Woven TAPES

A high grade tape especially popular with Telephone, Power and Light Companies, etc., for many work. The line, in general appearance, is like the Metallic, is without the metallic warp. It has leather reinforcement first end and distinct markings. Genuine leather case, metal lined, with a smooth flush handle.



With Five-Eighths-Inch Linen Tapes

| LENGTH IN FEET. | 50 | 100 |
|---|---------|---------|
| 1 Marked Feet and 10ths. EACH | (403D) | (406D) |
| 2 Marked Feet, Inches and Half Inches. EACH | (403) | (406) |
| "Sterling" Lines Only, Without Cases | | |
| 3 Marked Feet and 10ths. EACH | (0403D) | (0406D) |
| 4 Marked Feet, Inches and Half Inches. EACH | (0403) | (0406) |



WOVEN TAPE ON METAL REEL

Length: 150 feet, i.e., Standard Pole Section

Linen line, non-metallic, $\frac{5}{8}$ " wide same as our popular "Sterling." This tape is extensively used by public utility companies.

Substantial perforated disk reel of metal, with strong, folding winding handle giving good leverage, and adjustable strap handle affording firm hold. Diameter of reel $6\frac{3}{4}$ inches.

With Five-Eighths-Inch Linen Tapes

| | MARKED FEET AND INCHES | EACH |
|-------|---|------|
| 72835 | (1407) 150 ft. Tape Complete with Reel | |
| 72836 | (01407) 150 ft. Tape Line Only. | |

UNIVERSAL" (Linen Corded) TAPES

An inexpensive, yet strong, tape. Affording a fair degree of accuracy for a woven line. Durable Line, $\frac{1}{2}$ " wide, corded with unbleached linen and well coated in yellow. Sheet case with sides maroon enameled, and brass edge band. Brass folding handle mountings.



| LENGTH IN FEET. | 25 | 50 | 100 |
|---|-------|-------|-------|
| Graduated Feet, Inches and Quarter-Inches, EACH | (730) | (733) | (736) |

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover



B. K. ELLIOTT COMPANY



GRADUATING AND NUMBERING

"HI-WAY," "PIONEER" AND "CANYON" TAPES

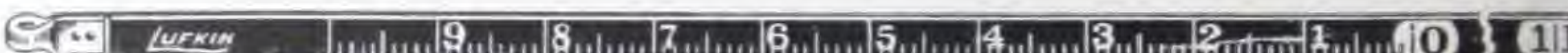
("Michigan" (Babbitt) Tapes are same except their finest subdivisions 10ths of feet)



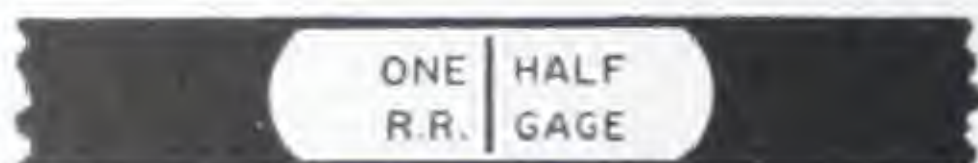
"REGULAR"—Blank space at each end; first and last foot subdivided to 10ths and 100ths; balance graduated every foot. Supplied unless "A" or "B" is specified.



"STYLE A"—Measurement begins and ends at extreme outer ends of clips (rings); first and last foot subdivided to 10ths and 100ths; balance graduated every foot.



"STYLE B"—Blank space at each end; extra foot before zero subdivided to 10ths and 100ths numbered from right to left; balance graduated every foot except last foot in 100ths.



Half Railroad Gage Mark

Regularly put on all "Hi-Way" Tapes; optional at no extra charge on "Pioneer" and "Michigan" Tapes. This mark appears at 2 feet, $4\frac{1}{4}$ inches from zero. This locates center of standard gage track when zero of tape is placed at inside edge of track.



Chain Tape Clips (End Rings)

Of heavy brass, nickel plated. Will not wear thongs nor flatten out. Clips as above shown are securely riveted to both ends of all Lufkin Chain Tapes.

TEMPERATURE SCALE



Scale in Actual Length for 100 Foot Tape

For most exact results the temperature in which a measuring tape is actually used must be taken into account. Temperature Scale on a steel tape is a series of graduations at the last end, corresponding to the expansion and contraction of the tape over a range of temperatures, which are indicated opposite the various lines. This scale takes the place of the terminal mark, that point falling on the line in the scale representing the temperature prevailing. We are prepared to put Temperature Scale on all etched steel tapes $\frac{1}{4}$ inch and over in width and of lengths 50, 100, 150, 200 and 300 feet.

72841 Extra for Temperature Scale..... PER TAPE

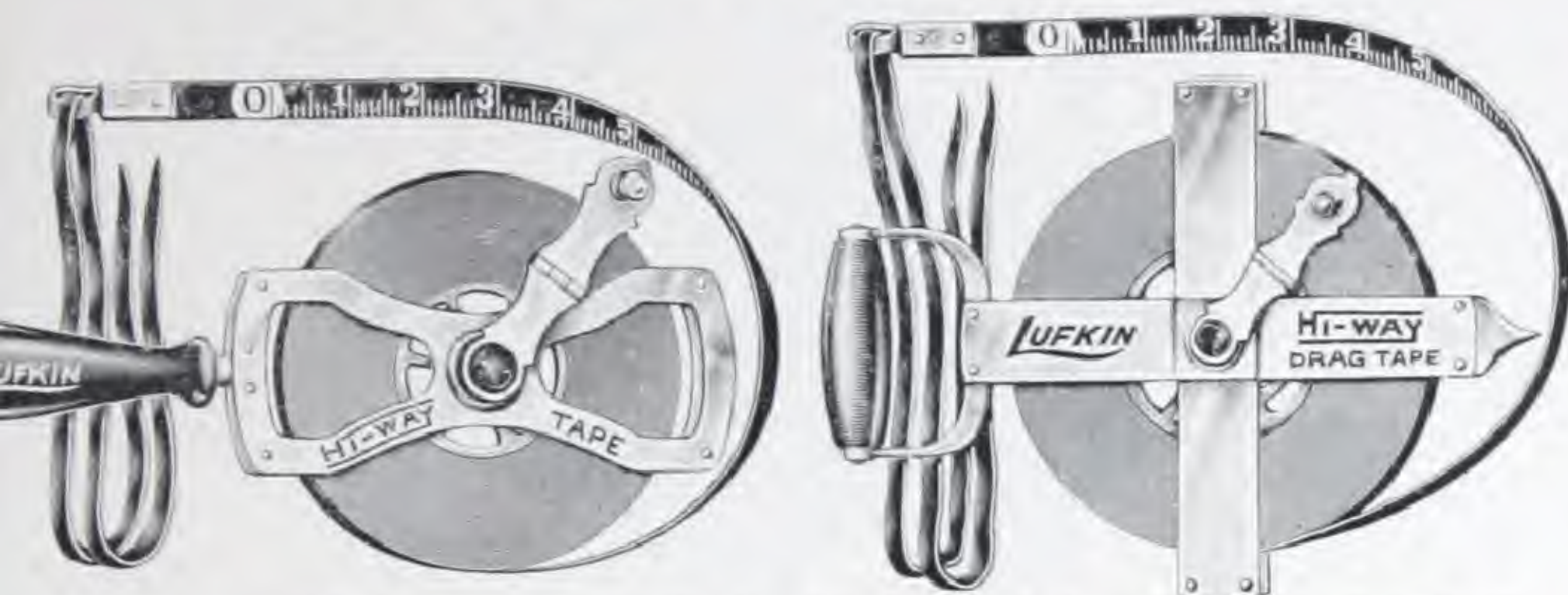
POCKET THERMOMETER



72842 Pocket Thermometer, 5 inch, Mercurial, Fahrenheit, Opal Glass, Reading to 2 degrees from -30° to $+120^{\circ}$, in nickel case with ring..... EACH

See Price List Inside Back Cover

"HI-WAY" DRAG TAPES



Extra Sturdy and Designed Especially for Highway, Railroad and Similar Work

4 | 5

Actual Size of Tape

A heavy Chain Tape of special tough steel and with extraordinary resistance to rust and tear. Has "Nubian" Finish. Prominent black lines and figures deeply cut into the portions of the line which are in high relief, therefore markings most permanent, easy to read and to locate even by touch. Outwears all other Chain Tapes, and markings remain clear even after much dragging of the tape.

"Hi-Way" Tapes have $\frac{1}{2}$ railroad gage mark at $2' 4\frac{1}{4}"$ from zero. Heavy brass clips. Pair of leather thongs with each tape. Line detachable from reel. Sturdy metal reel in dull nickel plated finish, with polished hardwood handle, large drum, and folding winding handle. Tapes over 100 feet long have 4-arm reel with "D" handle spike end.

Tapes, $\frac{5}{16}$ inches wide, .025 inches thick, graduated every foot, with end feet to inches, measurement beginning 6 inches from end of tape.

| | | | | |
|----|--|----------------|----------------|----------------|
| | LENGTH IN FEET..... | 100
(9100) | 200
(9200) | 300
(9300) |
| 51 | Complete with reel..... | Each | | |
| | | (09100) | (09200) | (09300) |
| 52 | Tape only..... | Each | | |
| | Measurement beginning at outside end of rings. | | | |
| | LENGTH IN FEET..... | 100
(9100A) | 200
(9200A) | 300
(9300A) |
| 53 | Complete with reel..... | Each | | |
| | | (09100A) | (09200A) | (09300A) |
| 54 | Tape only..... | Each | | |

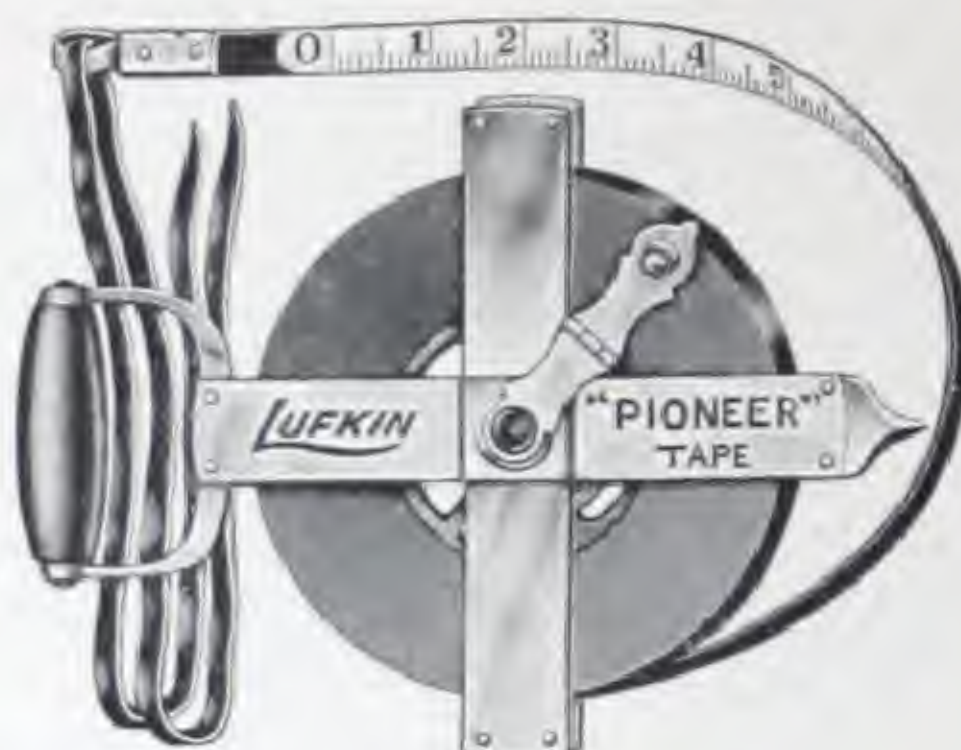
Tapes with extra foot before zero in 100ths, numbered right to left, can be furnished at no extra cost.

NOTE: "Hi-way" Tapes, with end feet to inches, no extra cost.

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover

“PIONEER” CHAIN TAPES



72862 — Actual Size of Tape

A sturdy steel tape affording a fine degree of accuracy. It has “Nubian” Finish, and black lines and figures cut into raised bright portions of the line, legible and permanent. Heavy brass end clips. Pair of leather thongs with each tape. Polished hardwood reel with long, folding winding handle and large drum. Mountings nickel plated. Line detachable from reel.

Width: $\frac{1}{4}$ Inch. Approximate Thickness: .020 Inch. Etched Markings.

Graduated every foot with end feet in 100ths. Blank space each end.

| LENGTH IN FEET..... | | 100 | 200 | 300 | 500 |
|---------------------|-----------------------------|---------|---------|---------|---------|
| | | (5100) | (5200) | (5300) | (5500) |
| 72861 | Complete with reel.....EACH | (05100) | (05200) | (05300) | (05500) |
| 72862 | Tape only.....EACH | | | | |

Measurement beginning at outside end of rings.

| LENGTH IN FEET..... | | 100 | 200 | 300 | 500 |
|---------------------|-----------------------------|----------|----------|----------|----------|
| | | (5100A) | (5200A) | (5300A) | (5500A) |
| 72863 | Complete with reel.....EACH | (05100A) | (05200A) | (05300A) | (05500A) |
| 72864 | Tape only.....EACH | | | | |

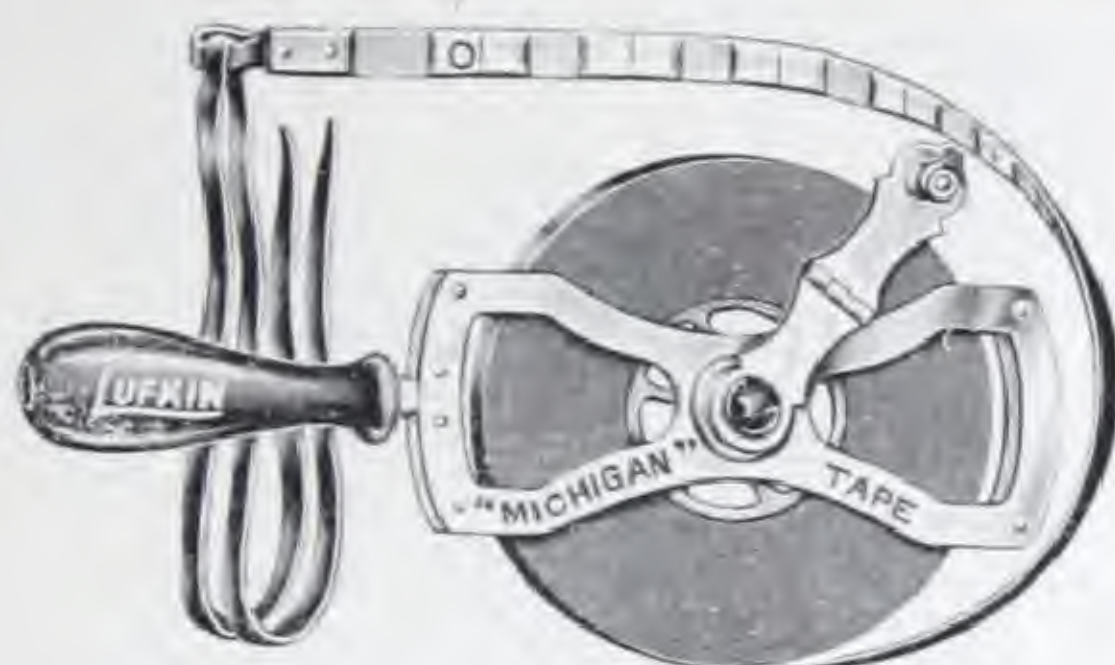
NOTE: Any above tapes furnished with measurements from outside end of rings, with extra foot before zero to 100ths, numbered from right to left or with end feet in inches and 8ths, or with Half Railroad Gage Mark—This mark, 2' 4 $\frac{1}{4}$ " from zero, put on any above tapes, when specified, at no extra charge.

NOTE—Numbers shown in (—) are Lufkin numbers

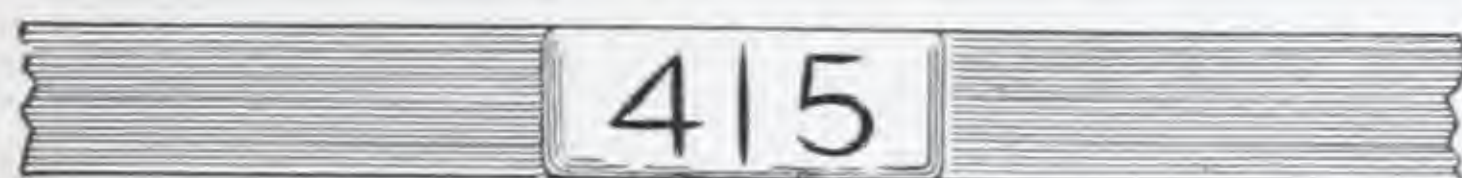
See Price List Inside Back Cover



"MICHIGAN" CHAIN TAPES



72871



72872-72874 — Actual Size of Tape

The Most Substantial Chain Tape Made

The "Michigan" is especially popular in railroad and highway work. Line and stand up well in hard service. Line is of extra tough steel, white metal coated. Graduations and figures are deeply stamped into babbitt metal. Line is detachable from reel, has heavy brass end clips, and is furnished with a pair of leather thongs. Metal reel, in dull nickel plated finish, with polished hardwood handle and folding winding handle. Tapes over 100 feet long have 4-arm reel with "D" end and spike end. Spike aids in holding reel when line is being withdrawn or wound.

Width: $\frac{5}{16}$ Inch. Approx. Thickness: .015 Inch. Markings on Babbitt Metal

Graduated every foot, with end feet in 10ths.

Measurement beginning 6 inches from end of tape.

| | | | | |
|---------------------------|---------|---------|---------|---------|
| LENGTH IN FEET..... | 100 | 200 | 300 | 500 |
| | (3100) | (3200) | (3300) | (3500) |
| 1 Complete with reel..... | EACH | | | |
| | (03100) | (03200) | (03300) | (03500) |

2 Tape only.....EACH
Measurement beginning at outside end of rings.

| | | | | |
|---------------------------|----------|----------|----------|----------|
| LENGTH IN FEET..... | 100 | 200 | 300 | 500 |
| | (3100A) | (3200A) | (3300A) | (3500A) |
| 3 Complete with reel..... | EACH | | | |
| | (03100A) | (03200A) | (03300A) | (03500A) |

4 Tape only.....EACH

Tapes with extra foot before zero in 10ths, numbered right to left, can be furnished at extra cost.

NOTE: Half Railroad Gage Mark—This mark, 2' 4 $\frac{1}{4}$ " from zero, put on any above when specified, at no extra charge.

End Feet in Inches—Above tapes so marked, no extra charge.

NOTE—Numbers shown in (—) are Lufkin numbers

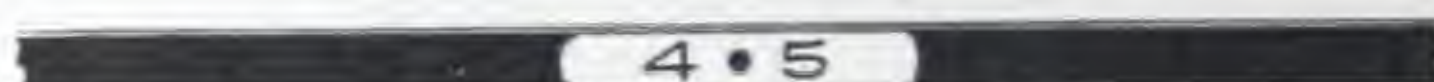
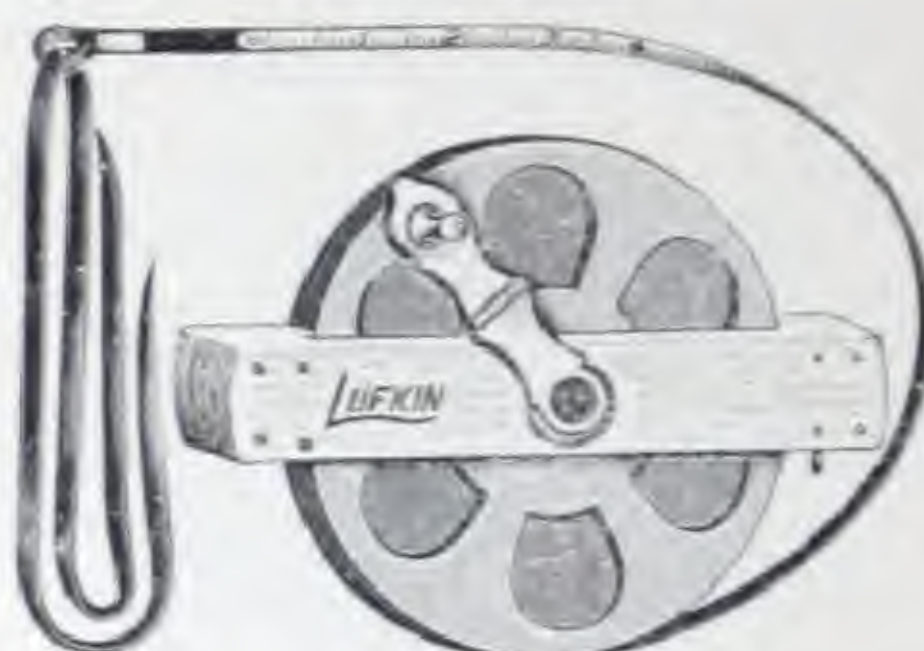
See Price List Inside Back Cover

“CANYON” CHAIN TAPES

EXTRA NARROW

Etched Graduations

“Nubian” Finish



Actual Size of Tape

Width: $\frac{1}{8}$ Inch. Approximate Thickness: .025 Inch. Etched Markings.

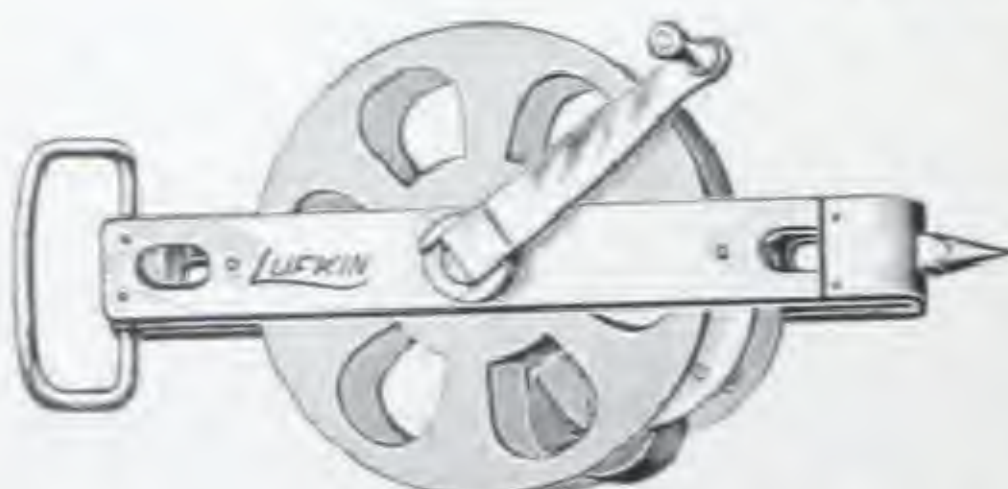
This is a sturdy steel tape and, being extra narrow, reduces wind resistance and handles well among obstructions and on rough ground. It has “Nubian” Finish. Markings and figures are black and cut into raised bright portions of the tape. A pair of leather thongs is furnished with each tape. Perforated disk reel of sheet steel, in dull nickel plated finish, and mounted in hardwood frame, with leather strap handle. Long, folding winding handle. Line has heavy brass clip and blank space at each end. It is detachable from reel.

Graduated every foot, with end feet in 100ths. Blank space each end.

| LENGTH IN FEET..... | | 100 | 200 | 300 | 500 |
|---------------------|-------------------------|---------|---------|---------|---------|
| | | (4100) | (4200) | (4300) | (4500) |
| 72881 | Complete with reel..... | EACH | | | |
| 72882 | Reel only..... | EACH | | | |
| | | (04100) | (04200) | (04300) | (04500) |
| 72883 | Tape only..... | EACH | | | |

NOTE: Any above tapes with extra foot before zero to 100ths, numbered from right to left or with end feet in inches and 8ths. No extra charge. Specify by suffix “B”.

TAPE REELS



An all-steel medium weight, sturdy reel—7 inches in diameter, mounted in 12-inch frame, exclusive of handle and spike point. The 5-inch winding handle gives good leverage and turns over to lock in either end of reel. Hardwood spring tension roller rides on the tape, helping it to wind evenly. Made in three capacities varying only in width. Spike Point is regularly furnished on all but 100-foot size.

In Ordering Always State Length, Width and Type of Line to Be Accommodated.

| | EACH |
|---|------|
| 72884 Reel, for 100 ft. tapes..... | |
| 72885 Reel, for 200 to 300 ft. tapes..... | |
| 72886 Reel, for 500 ft. tapes..... | |

NOTE—Numbers shown in (—) are Lufkin numbers

See Price List Inside Back Cover



TAPE REELS

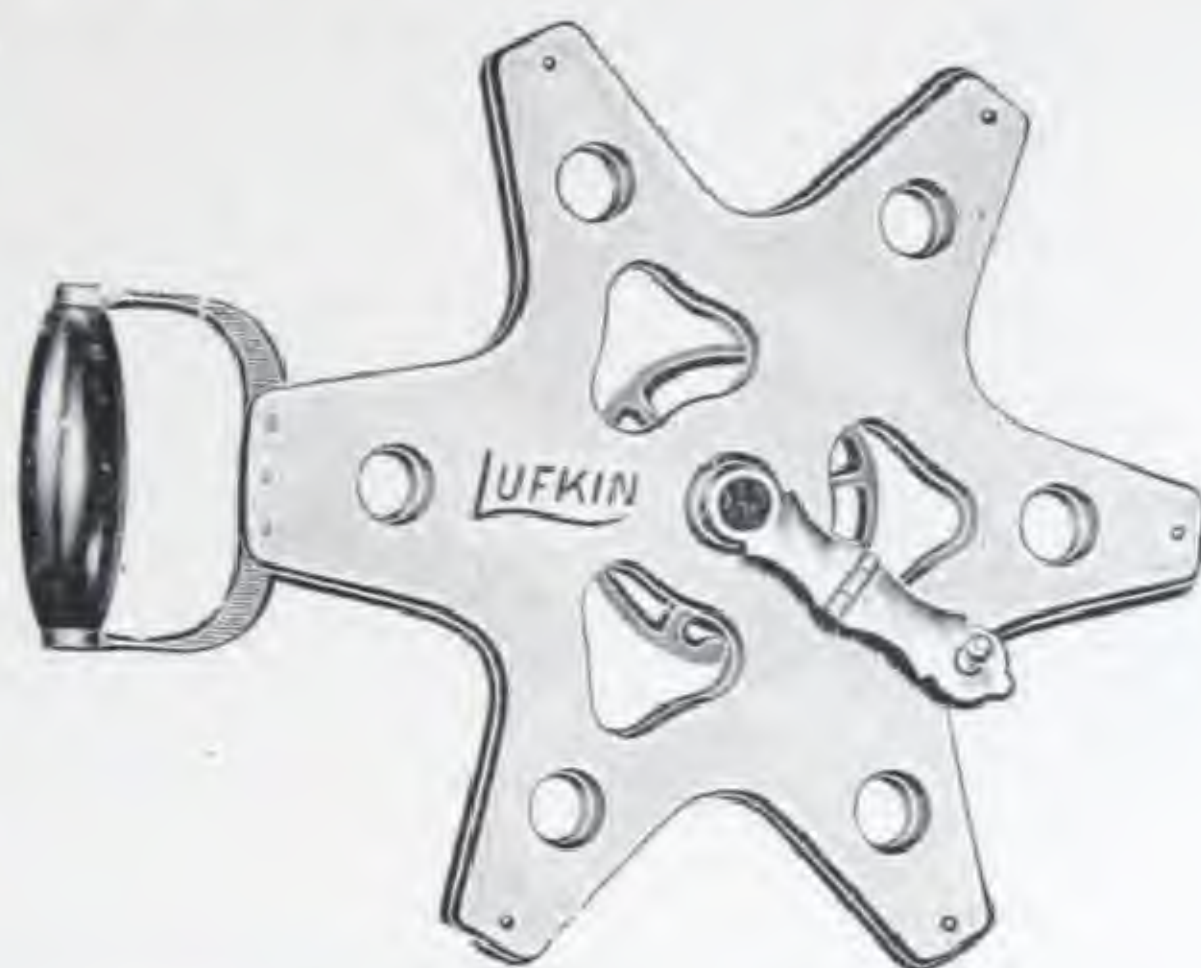
GEOLOGICAL SURVEY REEL

Sturdy 6-arm Reel of rust-proof metal with sides perforated. Has folding winding handle, large hand and polished hardwood "D" ring handle.

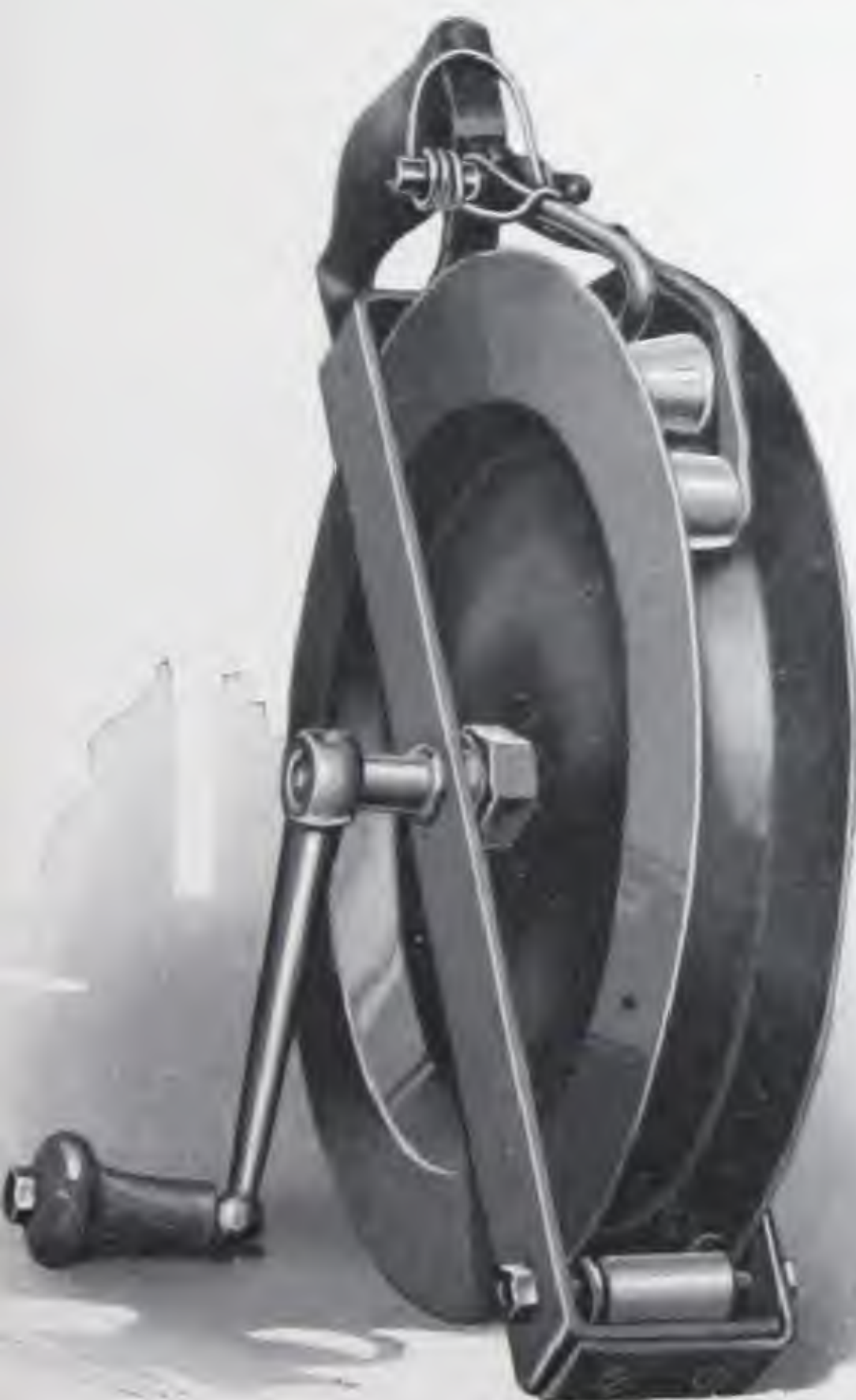
Made in one size only, 11 $\frac{1}{4}$ inch diameter. Will accommodate $\frac{1}{4}$ inch Etched Chain Tapes 200 feet long, and $\frac{5}{16}$ inch Babbitt lines such as Nos. 72852, 72862 and 72872 on pages 285, 286 and 287.

EACH

1 Geological Survey Reel



"JOHNSON" REEL



Designed by Engineers for Engineers. The most ruggedly built Reel. All steel construction with a long winding handle and full width carrying handle.

The tension spring rollers keep the tape in place.

All worn or broken parts can be replaced with little effort.

EACH

"Johnson" Reel.

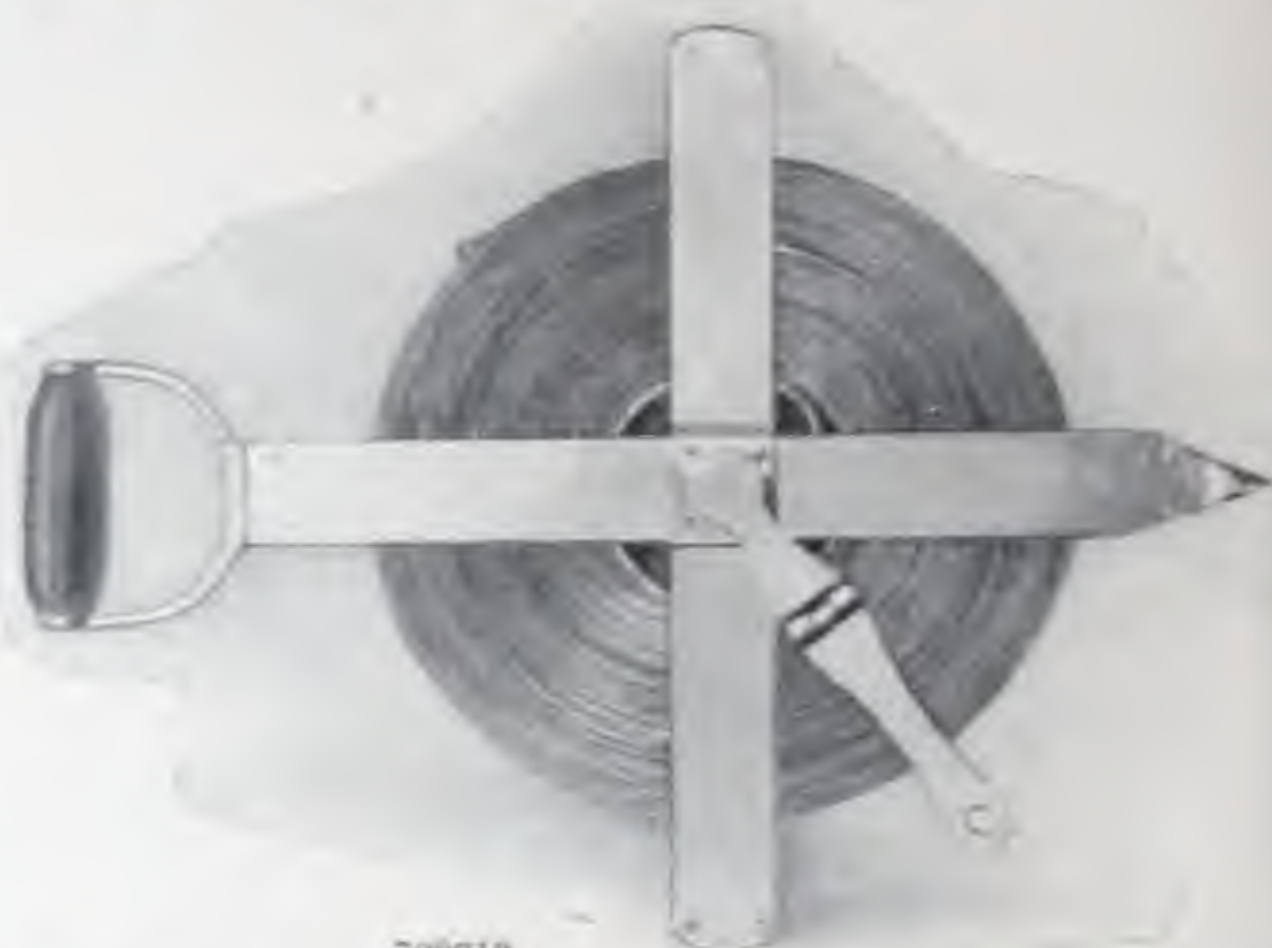
See Price List Inside Back Cover

"CHICAGO" TAPES



729001

2 5



729010

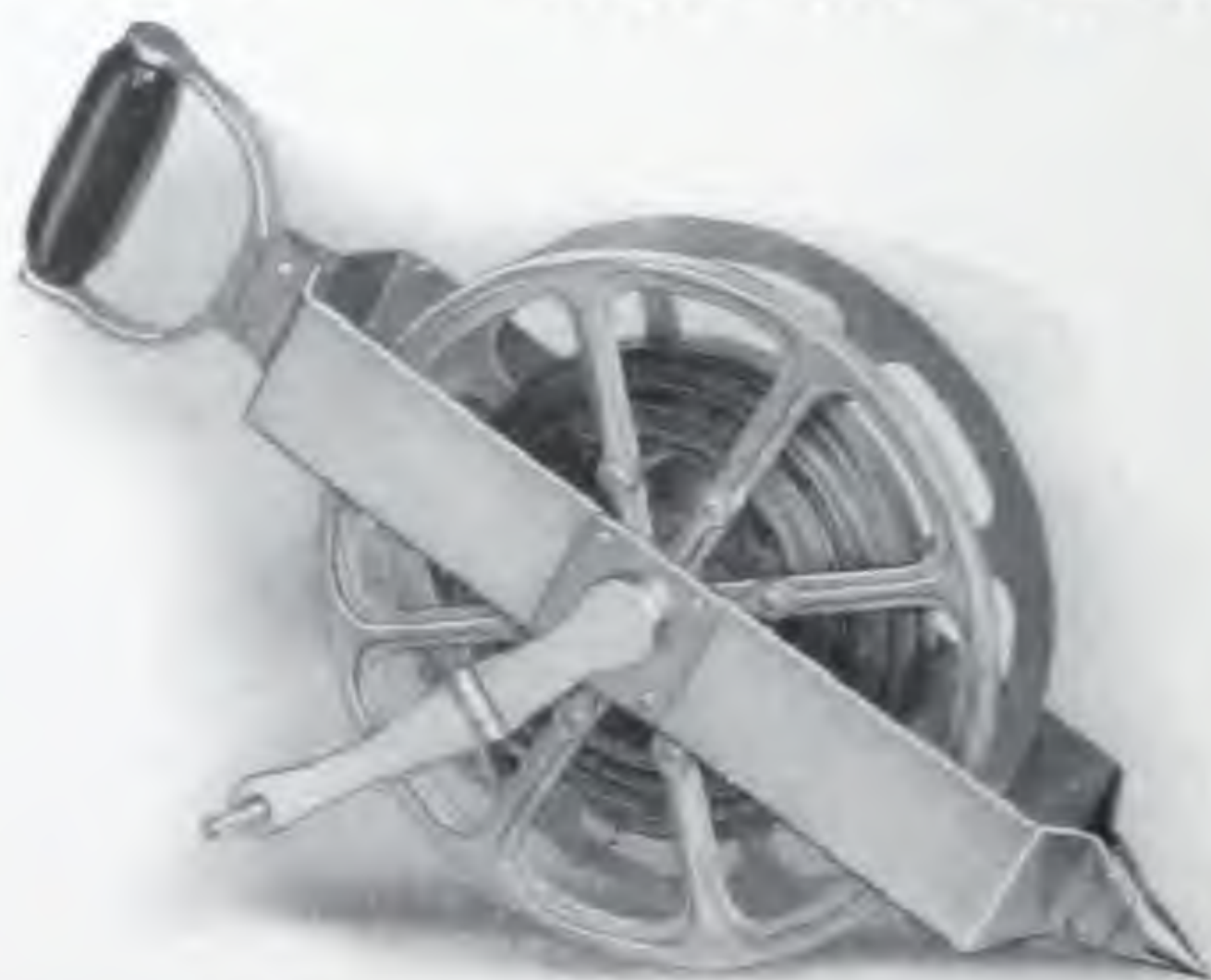
2 97

2 98

| | | | PRICE EACH | | |
|---|--|-------------------------|--------------|------------------|--------------------|
| | | | Without Reel | With Wooden Reel | With Metallic Reel |
| Graduation beginning at end of Steel Ribbon | Graduation beginning 6 inches from end of Steel Ribbon | $\frac{1}{4}$ Inch Wide | | | |
| 729001 | 729002 | LENGTH 50 feet | | | |
| 729003 | 729004 | 100 feet | | | |
| 729005 | 729006 | 150 feet | | | |
| 729007 | 729008 | 200 feet | | | |
| 729009 | 729010 | 300 feet | | | |
| 729011 | 729012 | 500 feet | | | |

$\frac{1}{4}$ -Inch wide tape furnished if specified at the same price as above, without reel

"CHICAGO" MINE TAPE



"Chicago" Mine Tape

The insistent demand for a MINE tape made of the best steel obtainable is our reason for manufacturing a tape with graduations stamped in brass sleeves securely soldered to tape.

It can be furnished in all widths of steel, from which we make our well-known "CHICAGO" tapes. ($\frac{1}{4}$ inch to $\frac{1}{2}$ inch.)

Style "X" graduated every foot with end feet in tenths.

Style "Y" graduated every five feet with end five feet every foot, end feet in tenths.

Style "Z" graduated every ten feet with end ten feet every foot, end feet in tenths.

Tapes furnished with extra graduated foot on first or both ends and with extra steel for hand-hold at no additional charge. Tapes furnished with blank space on ends unless otherwise specified. Tapes can be furnished in any lengths desired; ask for prices on special length or graduations.

| LENGTH | STYLE "X" | STYLE "Y" | STYLE "Z" | Each |
|--|-----------|-----------|-----------|------|
| 729013 100 feet without reel | | | | |
| 729014 150 feet without reel | | | | |
| 729015 200 feet without reel | | | | |
| 729016 300 feet without reel | | | | |
| 729017 400 feet without reel | | | | |
| 729018 500 feet without reel | | | | |
| If reel is desired, we recommend our new | | | | |
| 729019 "CHICAGO" Mine Reel | | | | Each |

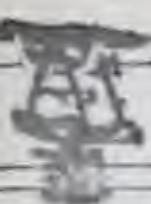
2 95

2 96

3 1

3 2

See Price List Inside Back Cover



"LUCAS" STEEL CHAIN TAPES

"Lucas" Chain Tapes have been manufactured and used extensively with increased popularity. Made of the finest tape steel and plated with anti-rust coating, assuring the excellent performance. A pair of rawhide handles accompanies every tape.

TAPE 15-64 Inch Wide

EACH

- 729101 (311) 100 feet, graduated to feet, each five feet by soldered bands marked with figures, intermediate feet by rivets, each end foot to tenths.
- 729102 (311X) 101 feet, same as 729101, but with extra end foot graduated to tenths.
- 729103 (321) 100 feet, with soldered bands, figures every foot, each end foot to tenths.
- 729104 (321X) 101 feet, same as 729103, but with extra end foot graduated to tenths.

"LUCAS" NARROW CHAIN TAPES

$\frac{1}{8}$ -inch wide. All tapes plated with antirust coating, graduations and figures being German silver bands clasped and soldered around the tape.

EACH

- 729105 (331) 100 feet, marked by bands every foot, same style as 729103.
- 729106 (332) 200 feet, marked by bands every foot, same style as 729103.
- 729107 (333) 300 feet, marked by bands every foot, same style as 729103.
- 729108 (334) 400 feet, marked by bands every foot, same style as 729103.
- 729109 (335) 500 feet, marked by bands every foot, same style as 729103.
- 729110 (372) 200 ft., marked every 5 ft., end 5 ft. to ft., each end ft. to tenths
- 729111 (373) 300 ft., marked every 5 ft., end 5 ft. to ft., each end ft. to tenths
- 729112 (374) 400 ft., marked every 5 ft., end 5 ft. to ft., each end ft. to tenths
- 729113 (375) 500 ft., marked every 5 ft., end 5 ft. to ft., each end ft. to tenths
- 729114 (391) 1000 ft., marked every 50 ft., end 50 to 10, end 10 to ft., each end ft. to tenths. (Made to order only).

For Nos. 729101 to 729109:

For plus reading, extra foot to 10ths beyond zero only, add X to number thus:

729101X = 101 feet, same price

For plus reading, extra end foot to 10ths beyond each end, add XX to number thus:

729101XX = 102 feet

For Nos. 729110 to 729113:

For plus reading, 5 feet to feet beyond zero, add X to number thus:

729110X = 205 feet, extra

For 5 extra feet to 10ths of a foot beyond zero add XI to number thus:

729110XI = 205 feet, extra

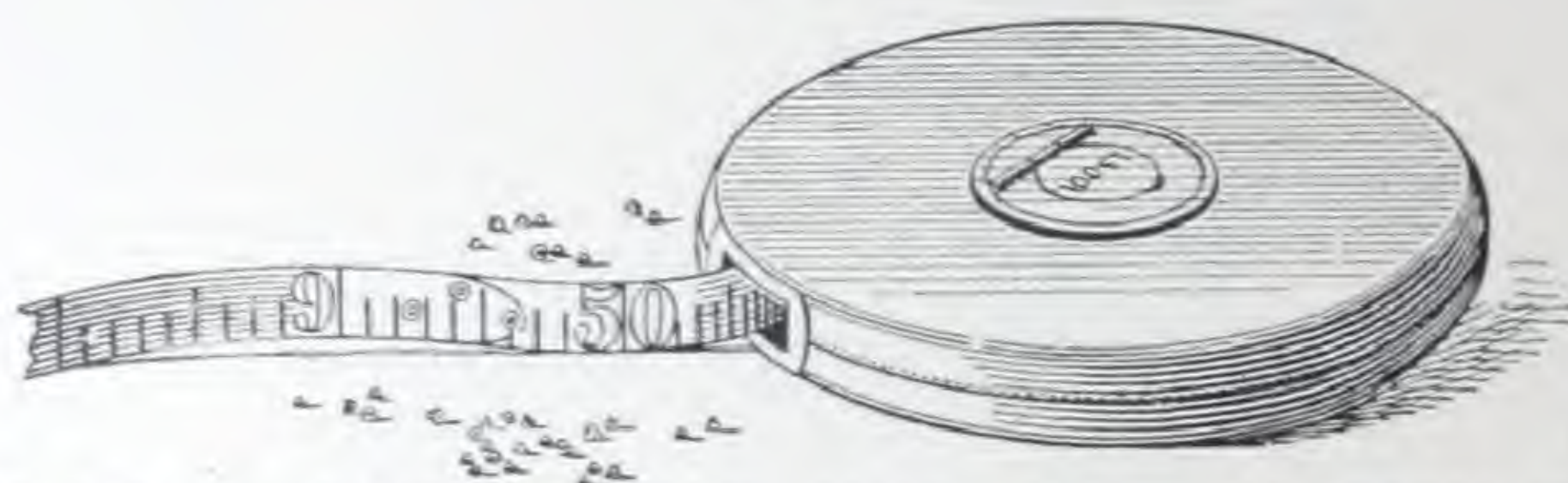
NOTE—Numbers shown in (—) are Lucas numbers

See Price List Inside Back Cover

TAPE REPAIR OUTFITS



72921

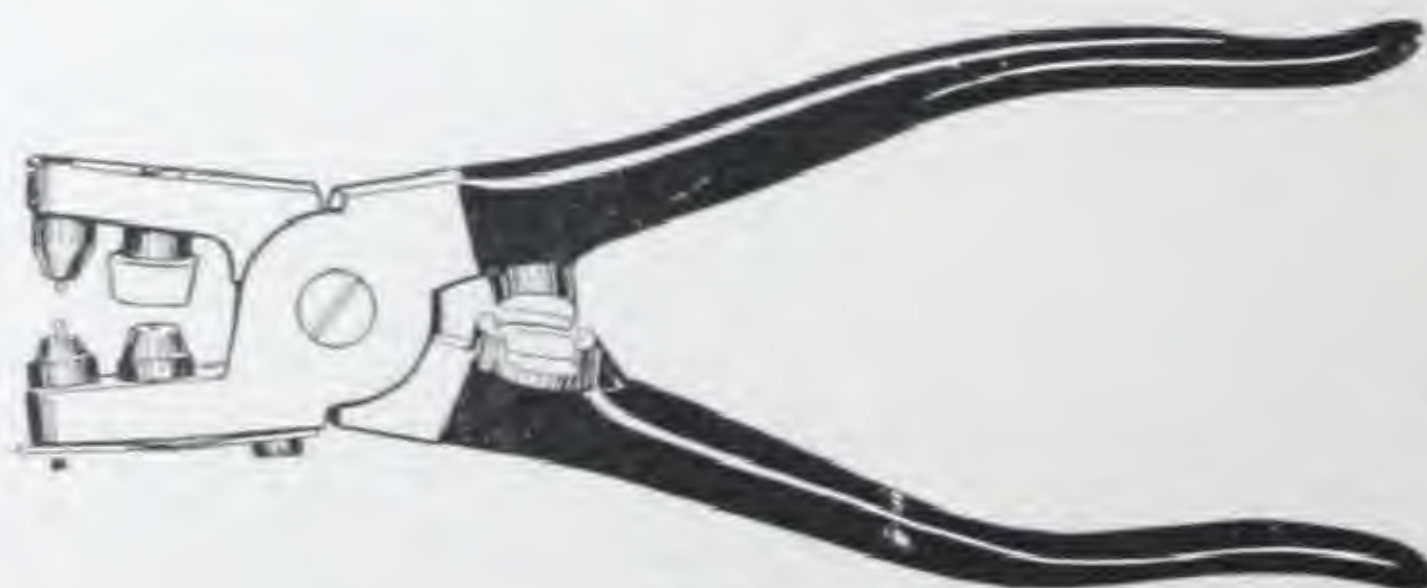


The "Punch and Riveter" set for Repairing Steel Tapes. Five minutes only required to mend an ordinary break

Can be carried in instrument box, thus enabling an engineering corps to repair their broken tapes in the field with the loss of a few minutes' time. Cuts a clean hole through two thicknesses of steel tape without drawing the temper. No filing required, holes can be cut near the extreme edge without splitting the tape, thus avoiding any chance of dirt collecting under the splice, cutting the fingers when drawing tape through the hands, or catching in rags when cleaning, etc.

EACH

- | | | |
|-------|---|--|
| 72921 | Combined Punch and Riveter, including supply long and short brass rivets. | |
| 72922 | Brass Rivets, 500 long or 500 short | |



72923

PUNCH, SHEARS AND RIVET SETS

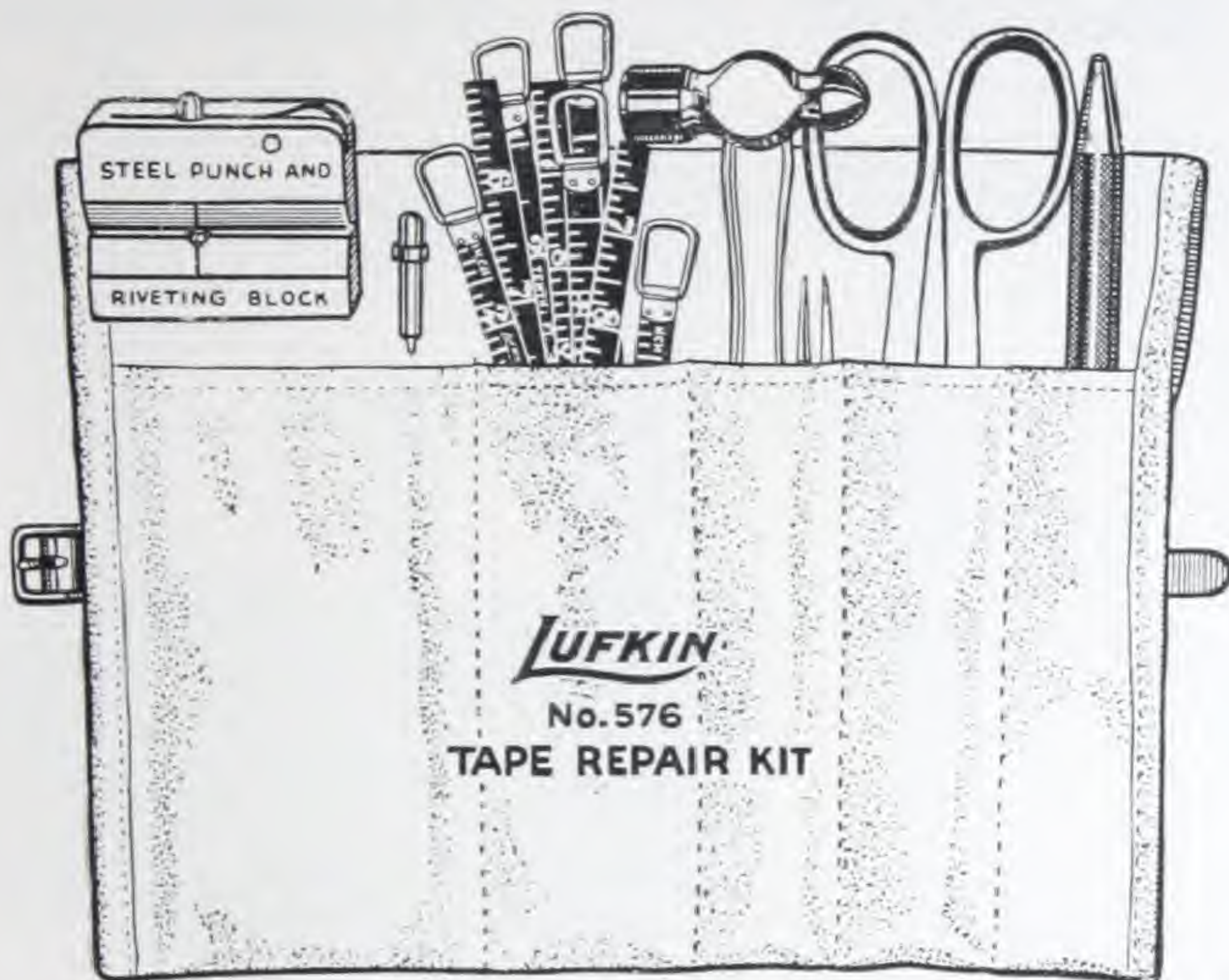
This tool combines all the necessary features to repair steel tapes in the shortest time and the neatest way. The punch will cut through two thicknesses of Lufkin or Chesterman's Tapes or one thickness of the heavy chain tape.

EACH

- | | | |
|-------|---|--|
| 72923 | Combined Punch, Shears and Riveter set. including supply long and short brass rivets. | |
| 72924 | Brass Rivets, 500 long or 500 short | |

See Price List Inside Back Cover

TAPE REPAIR KIT



Suitable for Bench or Field Use. In Leatherette Case.

A sturdy and most practical all-purpose outfit for splicing steel tapes of all widths and weights.

The solid steel punch block, $2\frac{1}{8}$ inches high, sits firmly on its $\frac{7}{8}$ x $2\frac{3}{4}$ inch base. The punching plunger has head for striking with hammer and at one blow will pierce one or two thicknesses of any tape. Light hammer tap on fulcrum lever raises the plunger. Front face of block has notch, tape slot and sighting line, so accurate locating of holes is simple. Back face has flush inset, hardened riveting block. Punching plunger readily removed by withdrawing set screw, and one extra plunger is furnished with each Kit.

Kit complete is compactly put up in leatherette case with tie strap, and folds to $3\frac{1}{2}$ x $1\frac{1}{2}$ inches.

KIT CONTAINS THE FOLLOWING ITEMS:

Steel Punch Block with Punching Plunger (also riveting block).

Pair of Cutting Snips (8-inch).

Pair of Tweezers.

Riveting Hammer (8-inch).

Solid Steel Rivets (1,000 in screw top box).

Rivet Set.

Extra Punching Plunger (for punch block).

Steel Tape Repair Pieces (one lot of various widths, weights and graduations, with and without ring).

Leatherette Case for all above.

931 Tape Repair Kit. In Leatherette Case EACH
Weight of Kit Complete, $2\frac{1}{8}$ lbs.

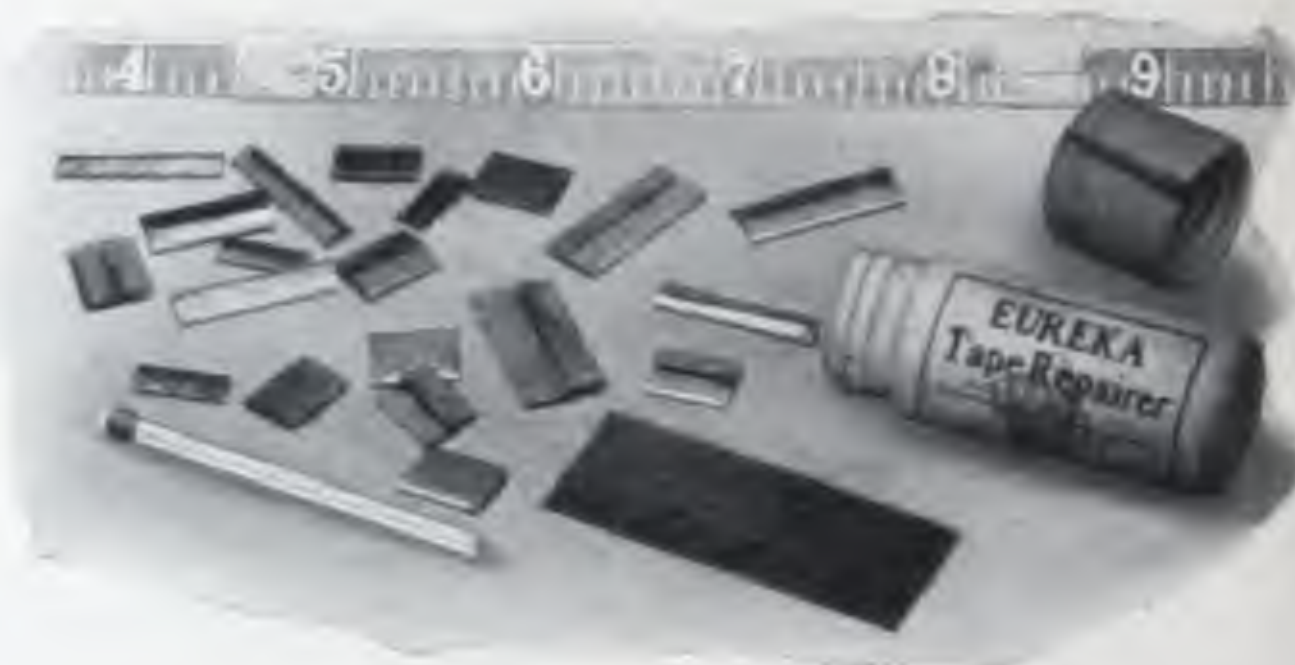
See Price List Inside Back Cover



- EACH PER DOZ.
- 72941 Weldin Tape Splice, for $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$ -inch tapes.....
- The Weldin is the best and most easily applied tape splice on the market.

**"EUREKA"
TAPE
SPICES**

Are formed in the shape of a sleeve, coated with a combination of solder and flux so sensitive the heat from a common match will make a perfect adhesion between tape and sleeve. Furnished one dozen in small metal box with full directions. State width of tape when ordering.



- 72942 Eureka Tape Splices.....PER DOZEN



- 72943 Little Giant Tape Splice, for $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ -inch tapes.....EACH

ADJUSTING PINS

For Transit or Level

- EACH
- 72944 Leather case, with two large and two medium adjusting pins.....
- 72945 Large Adjusting Pins.....
- 72946 Small Adjusting Pins.....

TRANSIT OIL

The best oil for lubricating surveying instruments, a Sperm Oil. It will flow at all temperatures. Will not become tacky or thick.

- PER BOTTLE
- 72947 Elliott's Transit Oil.....

See Price List Inside Back Cover

PLUMB BOBS



729513

These plumb bobs are made from red brass castings. They are absolutely true with a streamlined, quick centering, sighting point. All plumb bobs have a removable point made of cold-rolled steel.

EACH

- 29501 Brass Plumb Bob, about 6 ounces, steel point, screw cap
- 29502 Brass Plumb Bob, about 8 ounces, steel point, screw cap
- 29503 Brass Plumb Bob, about 10 ounces, steel point, screw cap
- 29504 Brass Plumb Bob, about 12 ounces, steel point, screw cap
- 29505 Brass Plumb Bob, about 14 ounces, steel point, screw cap
- 29506 Brass Plumb Bob, about 16 ounces, steel point, screw cap
- 29507 Brass Plumb Bob, about 19 ounces, steel point, screw cap
- 29508 Brass Plumb Bob, about 24 ounces, steel point, screw cap
- 29509 Brass Plumb Bob Cap
- 29510 Plumb Bob Steel Point, specify Bob weight

Other weights furnished to order.

- 29511 Mercury Plumb Bob, 3½ ounces, 4 inches long, ½-inch diam.
- 29512 Mercury Plumb Bob, 6 ounces, 4½ inches long, ⅝-inch diam.
- 29513 Mercury Plumb Bob, 12 ounces, 5⅜ inches long, ⅞-inch diam.
- 29514 Mercury Plumb Bob, 16 ounces, 6 inches long, 1-inch diam.

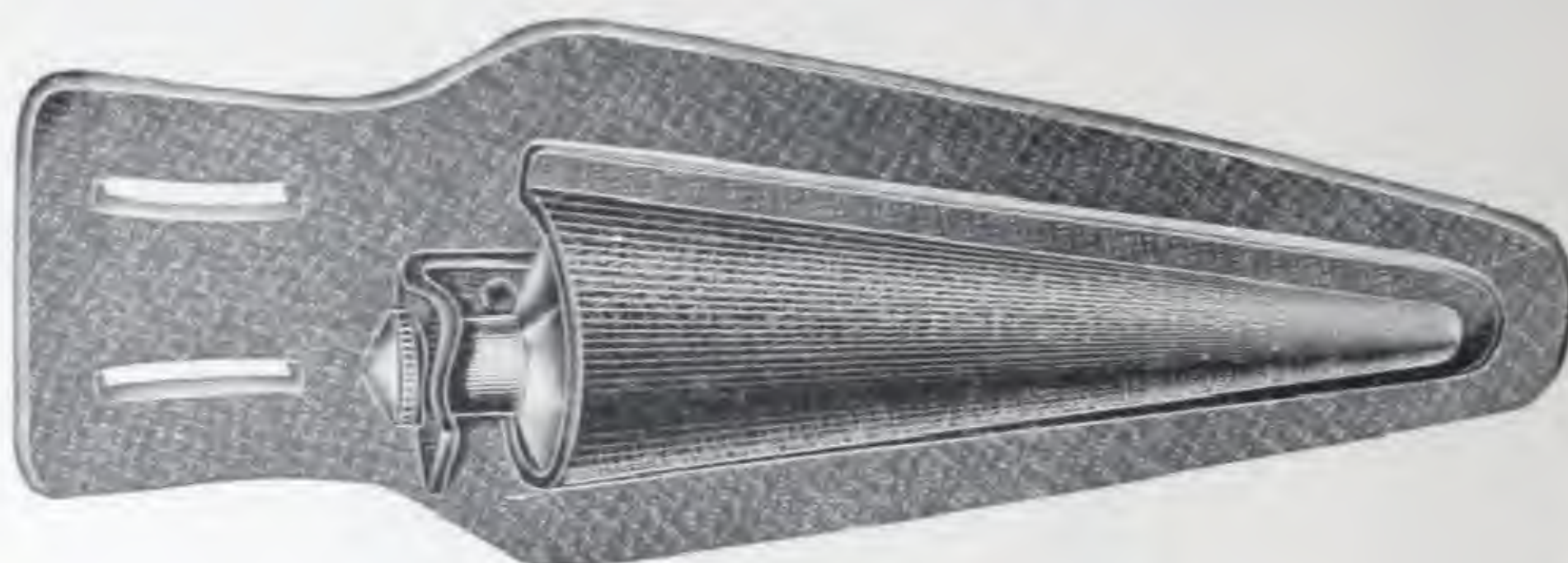
Plumb Bob Line

PER REEL
OF 25 YDS.

- 29515 Plumb Bob Line, Best Braided Linen, Thick
- 29516 Plumb Bob Line, Best Braided Linen, Medium
- 29517 Plumb Bob Line, Best Braided Linen, Thin
- 29518 Plumb Bob Line, Best Braided Linen, Ex. Thin
- 29519 Plumb Bob Line, Best Braided Silk

See Price List Inside Back Cover

PLUMB BOB SHEATHS



EACH

- 72961 Small Size Sheaths, heavy black leather, for 6 and 8-ounce bobs.
- 72962 Medium Size Sheaths, heavy black leather, for 10 and 12-ounce bobs. . .
- 72963 Large Size Sheaths, heavy black leather, for 14 and 16-ounce bobs. . . .
- 72964 Extra Large Size Sheaths, heavy black leather, for 19 and 24-ounce bobs. .

LINE AND SURFACE LEVELS



EACH

- 72965 Line and Surface Level

PLUMB BOB STRING TARGET



Made of light metal, the Plumb-Bob String Target is 4 inches long and 2 inches wide, and weighs about 1 ounce. When attached, string should be back of main body of target through slots to front of target and seated in notches in bead, which are in line with division on face of target.

If held so that finger touches top of target, rotation is prevented and the weight of the plumb-bob prevents oscillation. Easily carried in the vest pocket, and invaluable for mine and tunnel work.

EACH

- 72966 Plumb Bob Target

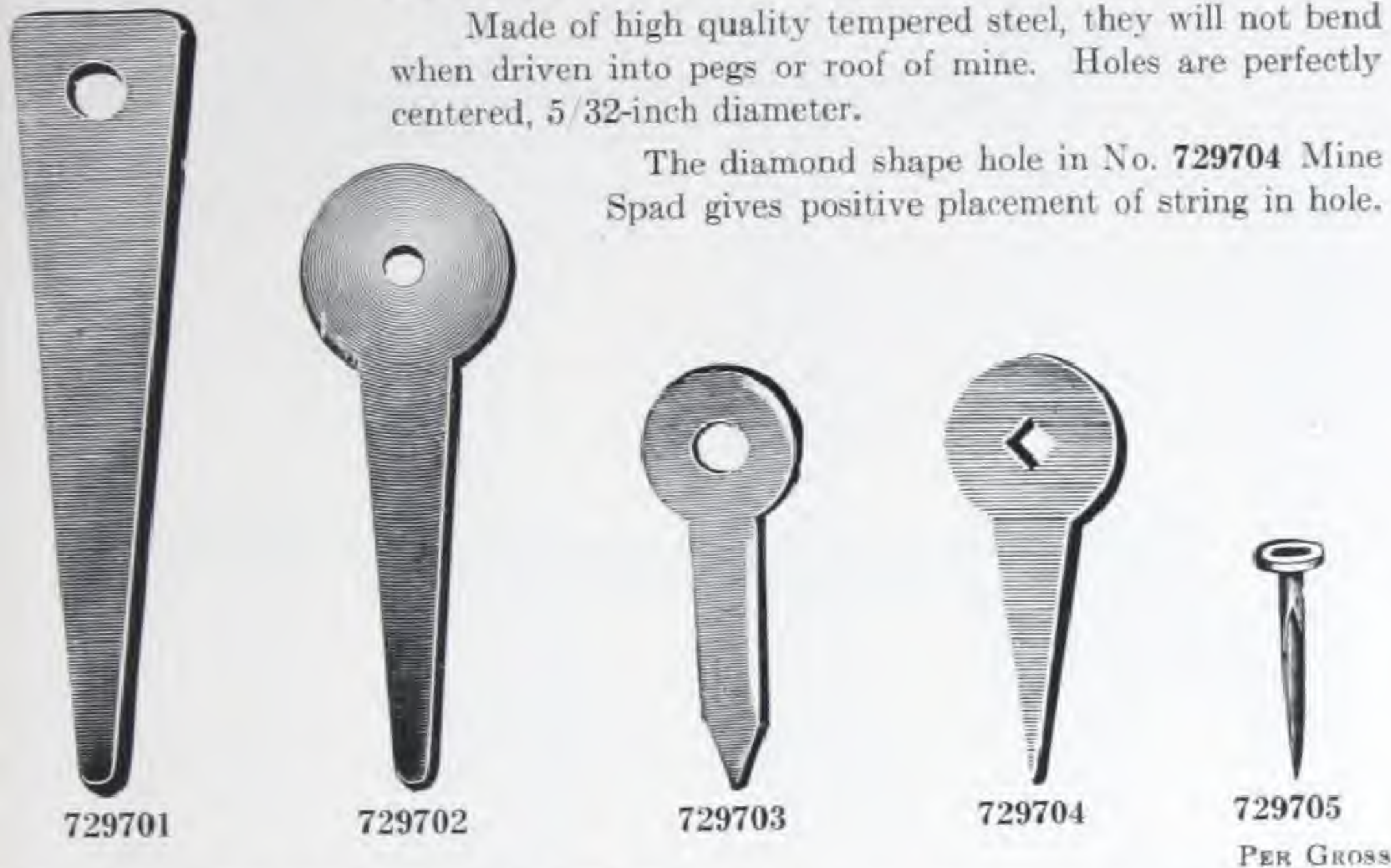
See Price List Inside Back Cover

STAKE TACKS AND MINE SPADS

FOR SUSPENDING PLUMB BOB

Made of high quality tempered steel, they will not bend when driven into pegs or roof of mine. Holes are perfectly centered, 5/32-inch diameter.

The diamond shape hole in No. 729704 Mine Spad gives positive placement of string in hole.



- 729701 Mine Spads, 2 1/2 inches long, in gross boxes.....
 729702 Mine Spads, 2 inches long, in gross boxes.....
 729703 Mine Spads, 1 1/4 inches long, in gross boxes.....
 729704 Mine Spads, 1 1/4 inches long, in gross boxes, with diamond shape hole.....
 NOTE—729701, 729702, 729703 and 729704 can be furnished in non-rust finish at a small additional cost.

- 729705 Stake Tacks, galvanized or brassed, per 2-ounce boxes.....
 729706 Stake Tacks, galvanized or brassed, per pound boxes.....
 These tacks have an indentation in the surface of the head, to guide the point of the plumb bob in exactly indicating location.

EACH

ARROWS



- 729707 Steel Arrows, 11 in set, 10 inches long, W. G. 6...SET
 729708 Steel Arrows, 11 in set, 14 inches long, W. G. 6...SET
 729709 Red and White Arrows, 11 in set, 14 inches long...SET
 729710 Leather Quiver, with belt loop, for set of arrows, 12 or 14 inches. EACH



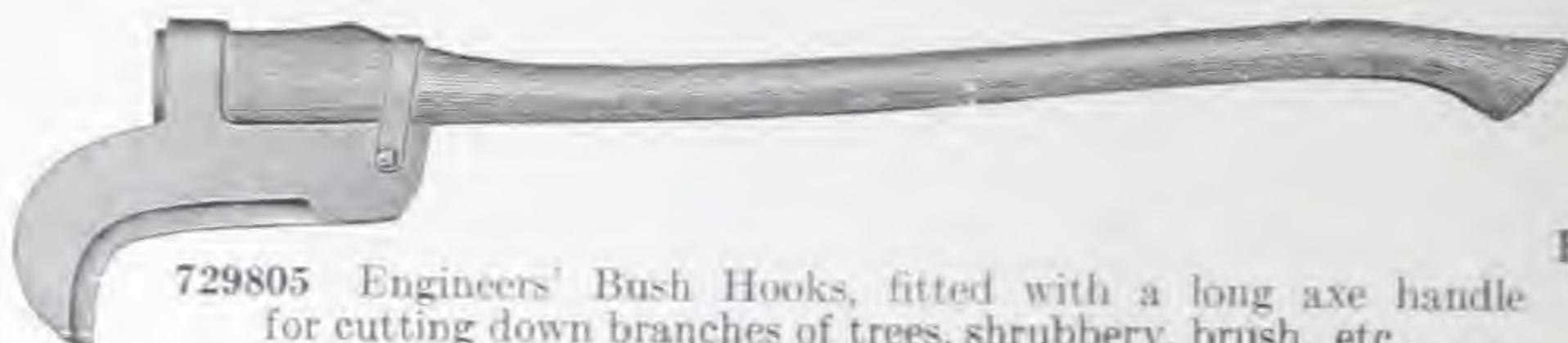
See Price List Inside Back Cover

ENGINEERS' FIELD ACCESSORIES



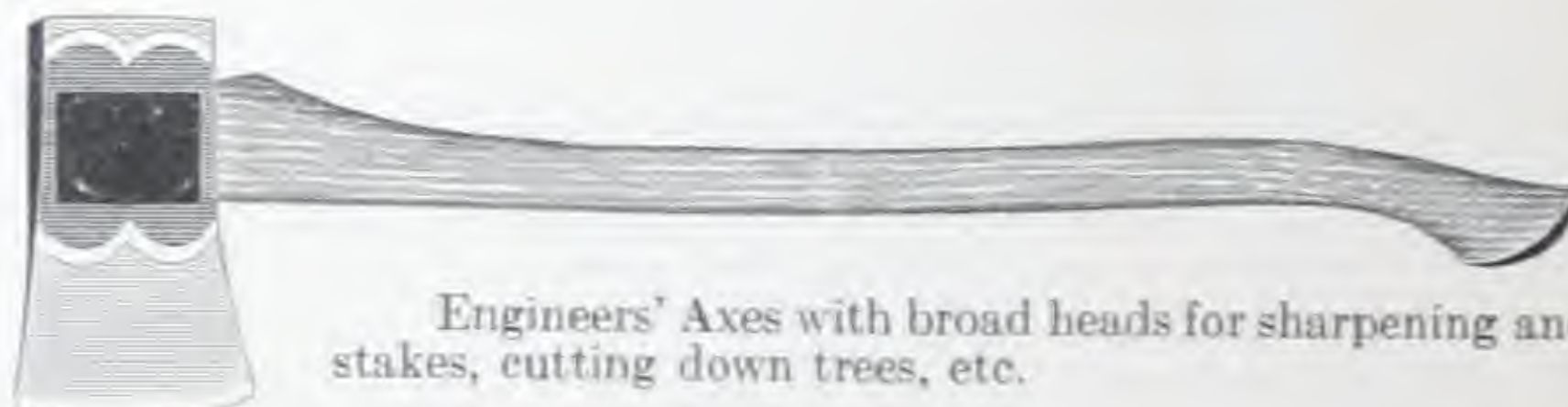
Engineers' Bush Knives for cutting down shrubs, small trees, brush, pointing stakes, etc.

- | | | |
|--------|--|------|
| 729801 | Engineers' Bush Knives, 22-inch blade..... | EACH |
| 729802 | Engineers' Bush Knives, 17-inch blade..... | |
| 729803 | Scabbard for 22-in. Bush Knife..... | |
| 729804 | Scabbard for 17-in. Bush Knife..... | |



729805 Engineers' Bush Hooks, fitted with a long axe handle for cutting down branches of trees, shrubbery, brush, etc.....

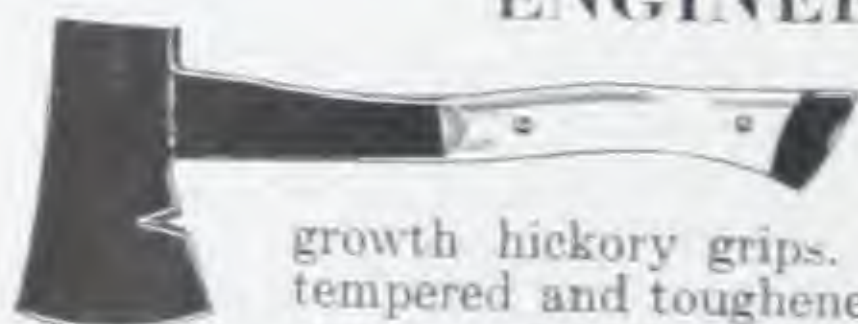
EACH



Engineers' Axes with broad heads for sharpening and driving stakes, cutting down trees, etc.

- | | | |
|--------|--|------|
| 729806 | Engineers' 5-pound Axes, with long handles..... | EACH |
| 729807 | Engineers' 3½-pound Axes, with long handles..... | |

ENGINEERS' BELT AXE

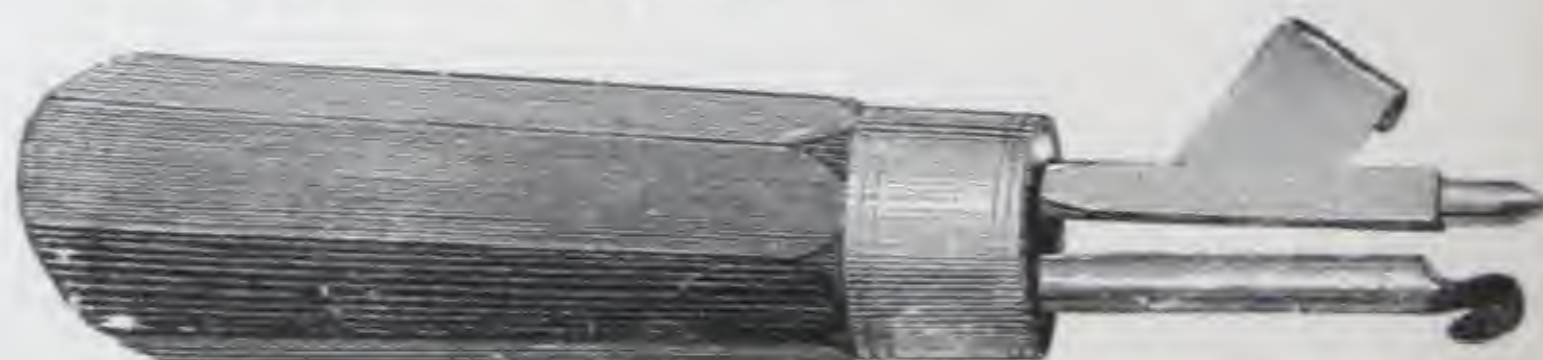


Finest Belt Axe made, all steel construction. Head and handle in one piece, with second growth hickory grips. Head cannot come off or loosen. Finest steel, tempered and toughened to hold a hard keen edge.

- | | |
|----------------------------|------------------------------|
| 729808 Belt Axe Only. EACH | 729809 Belt Axe Sheath. EACH |
|----------------------------|------------------------------|

TIMBER SCRIBES

- 729810 Timber Scribe, 6½ inch, for marking on wood, large size. EACH.....



See Price List Inside Back Cover

LEVELING RODS



Description on page 300

Oval targets are furnished on all 13-foot Rods. Round targets on Mine Rods. Micrometer target (73021) or Angle Micrometer (73022) supplied at additional cost. See page 302 for description.

See Price List Inside Back Cover

LEVELING RODS

- | | | EACH |
|--------|---|------|
| 730001 | "Philadelphia Rod," hardwood, divided feet and half-10ths, Vernier reading to 100ths, with oval target, vernier and clamp, 7 feet, sliding out to 13 feet | |
| 730002 | "Philadelphia Rod," same as 730001, but divided into feet, 10ths and 100ths, vernier reading to 1000ths | |
| 730003 | "Philadelphia Rod," same as 730002, with the additional feature "Instantaneous" reading—showing the foot marks in small red figures, a great advantage on short sights, saving many errors | |
| 730004 | "Philadelphia Rod," 3 ply collapsible rod without target—over all closed 4.5 feet extended 12 feet | |
| 730005 | "Philadelphia Mining Rod," 2 ply hardwood, without target, divided feet, 10ths and 100ths—overall closed 2 feet, extended 3.5 feet | |
| 730006 | "Philadelphia Mining Rod," hardwood, divided into feet and half-10ths, vernier reading to 100ths, with target, vernier and clamp, 3.3 feet, sliding out to 5 feet | |
| 730007 | "Philadelphia Mining Rod," same as 730006, but divided feet, 10ths and 100ths. Vernier to 1000ths | |
| 730008 | "Philadelphia Mining Rod," hardwood, divided into feet and half-10ths, vernier reading to 100ths, with target, vernier and clamp, 5.3 feet, sliding out to 9 feet | |
| 730009 | "Philadelphia Mining Rod," same as 730008, but divided into feet, 10ths and 100ths, vernier reading to 1000ths | |
| 730010 | "Architect's Rod," hardwood, light color, divided into feet, inches and $\frac{1}{8}$ inches, with target, vernier and clamp, 5 $\frac{1}{2}$ feet, sliding out to 10 feet. | |
| 730011 | Narrow Stadia Rod, suitable for leveling and stadia. Pine 2 $\frac{1}{2}$ " wide, $\frac{3}{8}$ " thick. Graduated either E or J type (see page 303). Made in 12 ft. length, slip lock joint | |
| 730012 | Wide Stadia Rod, for distance reading. Pine 4" wide, $\frac{3}{8}$ " thick. Graduated with either K, R, T, X or Y (see page 303). Made in 12 ft. and 14 ft. lengths. Folding hinge lock joint | |
| 730013 | Rod Level, Circular Spirit Level | |
| 730014 | Rod Level, detachable and folds up for carrying in the pocket. Held against the rod or temporarily attached with a rubber band | |

See Price List Inside Back Cover

STADIA RODS



Slip Lock Joint

Used on narrow stadia and automobile sectional level rods shown on page 302.

ROD LEVELS



730013

Can be attached readily with screw, tack or tape.



Folding Hinge Lock Joint

Used on wide stadia rods.



730014

Held by hand or rubber band.

730011

For description on 730011 Stadia Rod see page 300.

730011 Target. An oval plain target, slightly larger than the regular one, can be furnished for leveling rods when it is desired to read by vernier to thousandths of a foot. This target can be moved easily on the One-Piece, and Lock-Joint Rods but will not pass the joint on the Folding Rods..... EACH

See Price List Inside Back Cover

**"AUTOMOBILE"
SECTIONAL
LEVEL RODS**

**SPECIAL
TARGETS**

FOR STANDARD RODS

The Micrometer Target has an arrangement for setting the target consisting of an eccentric, controlled by a small handle placed at lower edge of target, which slides the target on an inner metal sleeve, permitting of rapid and accurate setting. Since the micrometer arrangement should be operated only after the target is clamped, the danger of accidentally moving the target after setting is eliminated.

EACH

73021 Micrometer Target....



73021

Micrometer Target

With the Angle Micrometer Target the horizontal dividing line is carried over two surfaces placed at right angles to each other, thus showing a continuous unbroken line only when the rod is held in a vertical position.

EACH

73022 Angle Target.



Angle Micrometer Target

EACH

- 73023 Automobile Sectional Rod, 12 feet, 3 sections graduated feet, 10ths and 100ths without target.....
- 73024 Same as 73023 but graduated feet, 10ths and half-10ths.....
- 73025 Automobile Sectional Rod, 16½ feet, 4 sections graduated feet, 10ths and 100ths without target.....
- 73026 Same as 73025 but graduated feet, 10ths and half-10ths.....
- 73027 Automobile Section Rod Target.....

See Price List Inside Back Cover

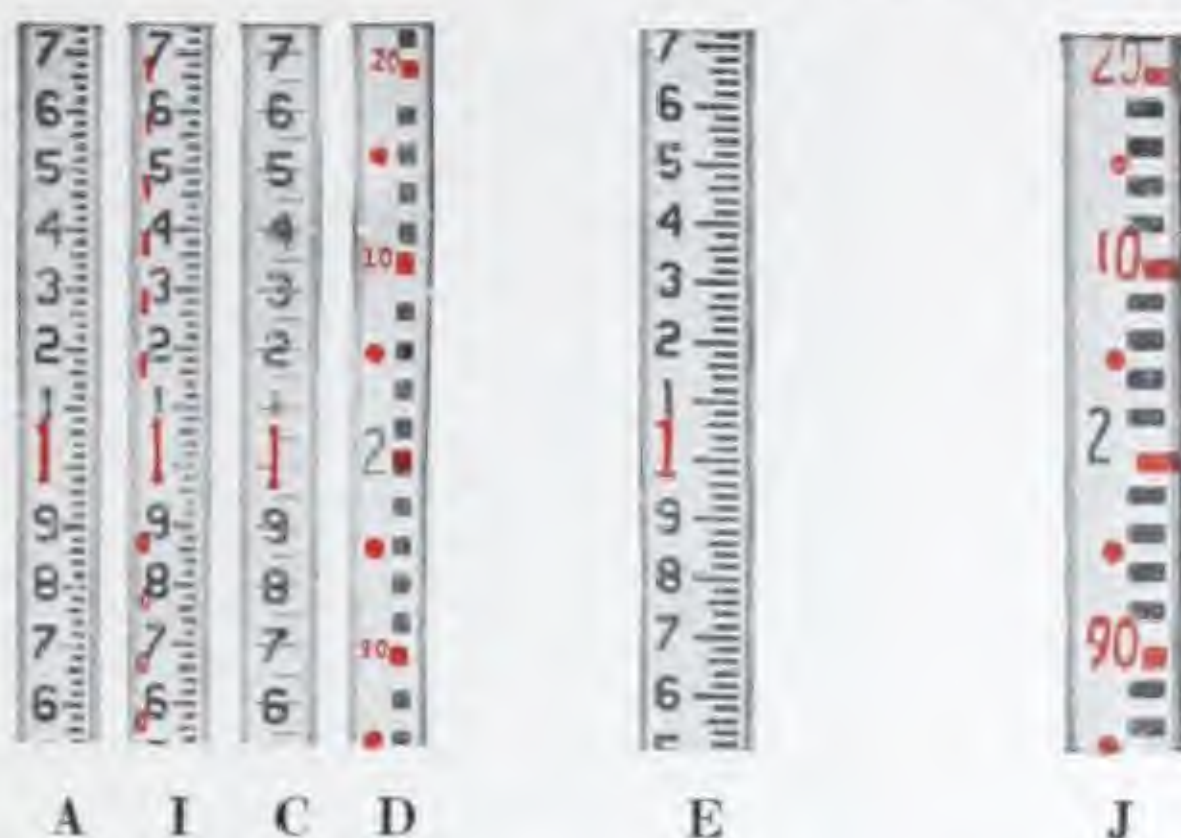
LEVEL AND STADIA ROD MARKINGS

Leveling Rods

Narrow Stadia Rods

LEVEL RODS

Our rods are made of seasoned, straight-grained maple, brass-shod top and bottom. Strong, easily-worked clamp. Face of rod is painted white with black graduations stamped into the wood. The foot figures are red, and can be furnished in the following types of graduations: A, I, C, and D, as shown in illustration.



Type A. Reading to feet, tenths and hundredths. With target by vernier to thousandths of a foot.

Type I. Same as Type A with the addition of the foot figure in red for instantaneous reading (No. 730003).

Type C. Reading to feet, tenths and half tenths. With target and vernier to hundredths.

Type D. Graduations are furnished in metric. They read meters, decimeters and centimeters. With target and vernier to millimeters (on order only).

NARROW STADIA RODS

Made of basswood, straight grained, carefully selected, thoroughly seasoned. 2½" wide, ¾" thick, 2" recessed face. Graduations red and black, on white painted face. Can be furnished with E and metric J markings on order. Type E graduations furnished unless otherwise specified.

WIDE STADIA RODS

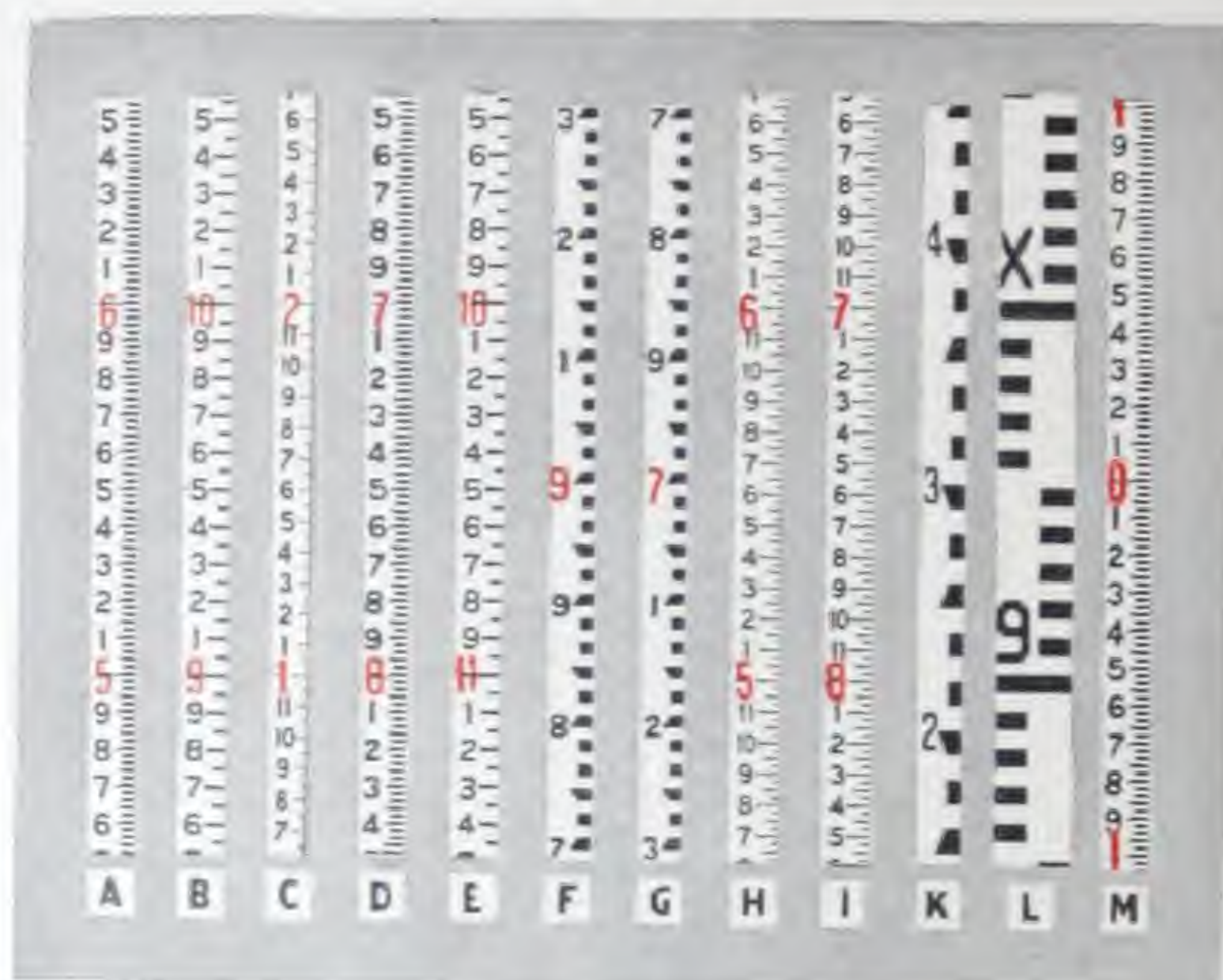
Made of well-seasoned basswood, which is light in weight and does not warp easily. 4" wide with a 3½" recessed face. The patterns are distinctly marked on white face of rod and covered with a coat of colorless, waterproof varnish. All metal fittings are heavy, securely fastened to the wood.

Wide Stadia Rods



FLEXIBLE POCKET LEVEL RODS

Paper Cloth



12½ Ft. 12½ Ft. 16½ Ft.
OR TO TO
UNDER 16½ Ft. 20½ Ft.

- 730401 (A) Feet, 10ths and 100ths, numbering up, width 1½ or 1⅝ in. EACH
- 730402 (B) Feet, 10ths and half tenths, numbering up, width 1½ or 1⅝ in. EACH
- 730403 (C) Feet, inches and eighths, numbering up, width 1½ or 1⅝ in. EACH
- 730404 (D) Feet, 10ths and 100ths, numbering down, width 1½ or 1⅝ in. EACH
- 730405 (E) Feet, 10ths and half 10ths, numbering down, width 1½ or 1⅝ in. EACH
- 730406 (F) Meters, 10ths and 100ths, numbering up. EACH
- 730407 (G) Meters, 10ths and 100ths, numbering down. EACH
- 730408 (H) Feet, inches and fourths, numbering up. EACH
- 730409 (I) Feet, inches and fourths, numbering down. EACH
- 730410 (K) Links and 10ths, numbering up. EACH
- 730411 (L) Feet and half 10ths, 2½ inches wide, 12 ft. long. EACH
- 730412 (M) Any style numbering both ways from a zero. EACH

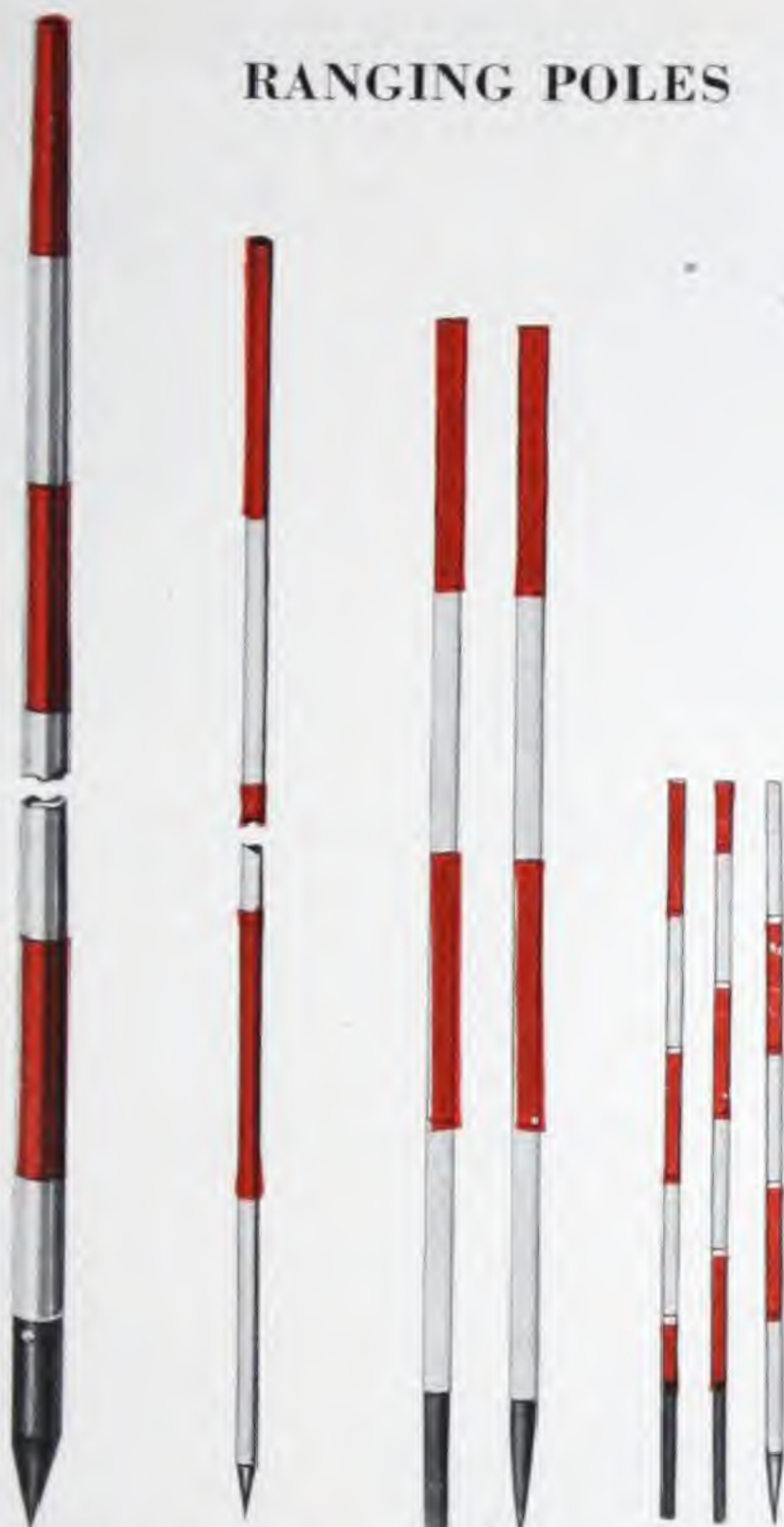
NOTE: Above Rod Ribbons also available in brass except No. 730411. Please write for price.

Letters shown in (—) identify rods illustrated above.

See Price List Inside Back Cover

"Range"
 La
 730501 W
 730502 W
 Steel
 La
 730503 St
 730504 St
 730505 St
 730506 Sa
 730507 Sa
 730508 Sa
 730509 Sa
 730510 St

RANGING POLES



730501

730503

730505

730510

"Ranging Poles," best seasoned wood, painted red and white alternately.

| | | | | | |
|----|---------------------|------|---|---|----|
| 01 | Wood octagonal..... | EACH | 6 | 8 | 10 |
|----|---------------------|------|---|---|----|

| | | | | | |
|----|------------------|------|--|--|--|
| 02 | Wood, round..... | EACH | | | |
|----|------------------|------|--|--|--|

Steel "Ranging Poles," hardened steel point, painted red and white alternately.

| | | | | | |
|--|-------------------|--|---|---|--|
| | LENGTH, FEET..... | | 6 | 8 | |
|--|-------------------|--|---|---|--|

| | | | | | |
|----|--|------|--|--|--|
| 03 | Steel, round, solid, 1/2 inch diameter, one piece..... | EACH | | | |
|----|--|------|--|--|--|

| | | | | | |
|----|--|------|--|--|--|
| 04 | Steel, octagonal, solid, 1/2 inch diameter, one piece..... | EACH | | | |
|----|--|------|--|--|--|

EACH

| | | | | | |
|----|---|--|--|--|--|
| 05 | Steel, round, tubular, 1 1/8" diameter, 2 sections, 4 1/2 ft. long, telescope joint, with automatic spring catch at each joint. 8 ft. long, in canvas case..... | | | | |
|----|---|--|--|--|--|

| | | | | | |
|----|---|--|--|--|--|
| 06 | Same as 730505 but 3 sections, 12 1/2 ft. long..... | | | | |
|----|---|--|--|--|--|

| | | | | | |
|----|--|--|--|--|--|
| 07 | Same construction as 730505 but sections 3 1/2 ft. 2 sections, 6 1/2 ft. long..... | | | | |
|----|--|--|--|--|--|

| | | | | | |
|----|--|--|--|--|--|
| 08 | Same as 730505 but 3 sections, 9 1/2 ft. long..... | | | | |
|----|--|--|--|--|--|

| | | | | | |
|----|---|--|--|--|--|
| 09 | Same as 730505 but 4 sections, 12 1/2 ft. long..... | | | | |
|----|---|--|--|--|--|

| | | | | | |
|---|--|--|--|--|--|
| 0 | Steel, round, tubular, 5/8" diameter, 3 sections 33" long, 7 1/4 ft. overall. Marked Red and White every 6 inches. In canvas case..... | | | | |
|---|--|--|--|--|--|

See Price List Inside Back Cover

TALLYING MACHINES



73061



73062

EACH

- 73061** Tallying Machine, for keeping count by pressing on a knob, nickel-plated, registers to 999, arranged to set back to zero
- 73062** Tallying Machine (Veeder-Root), for counting and checking, chrome satin finish, registers to 9999, by pressing small lever. Reset to zero quickly by knob on side

SPEED COUNTERS

For finding the revolutions per minute made by a shaft, fly wheel, or any other revolving part.



73063

- 73063** Speed Counter, high speed, nickel-plated, 5 inches long, working parts encased, dial plate has two rows of figures reading right or left as the shaft may run. Two rubber tips for pointed and hollow centers. Directions with each counter.

EACH

- 73064** Direct Speed Counter for use on engine, motor, or line shaft, spindles, etc. Figures black on metal background. Maximum speed 2500 R.P.M. Non-reset. Chrome satin finish. Supplied with 2 rubber tips, one of them a suction cup

EACH



73064

See Price List Inside Back Cover



73071

STOP WATCHES FOR TIME STUDY

60 second
timers
from one-fifth
second to
30 minutes



73073

Gallet Plain Timer, $\frac{1}{5}$ th second, 30 minute register. An excellent timer for industrial and sports use where take out time is not required. Starts, stops and returns to zero, by successive pressure of crown.

73071 Gallet Plain Timer. Nickel case, lever movement, seven jewels.....EACH

73072 Security Plain Timer. Nickel case, lever movement, one jewel.....

Gallet Football, Basketball and Production Timer where take out time is required. Equipped with side slide control for stopping and starting when lost motion and non-productive periods occur. Crown control for zero setting. $\frac{1}{5}$ th second, 30 minute register. Lever movement.

73073 Gallet Sports Timer. Nickel case (with locking device), seven jewels.....EACH

73074 Gallet Sports Timer. Nickel case (without locking device), seven jewels.....

73075 Security Sports Timer. Nickel case (without locking device), one jewel.....

DECIMAL TIMERS FOR PRODUCTION STUDY

Registering
from 100th
of a minute
up to
30 minutes



73076



73077

Gallet Decimal Timer, for all kinds of timing where it is more convenient to use decimals of a minute in figuring. With "time out" feature and crown zero setting.

73076 Gallet Decimal Timer, nickel case, lever movement, seven jewels.....EACH

Gallet Decimal Timer, like 73076, with the additional feature that this watch permits direct reading on the dial of production per hour, for observations up to one minute. A most efficient instrument for time-study work. The figures on the dial indicate without computation of any kind, hourly production for any individual operation consuming 1 minute or less. For ordinary timing of operations requiring more than 1 minute, the small hand registers time up to 30 minutes.

73077 Gallet Hourly Production Timer, nickel case, lever movement, 7 jewels.....EACH

See Price List Inside Back Cover

ANEMOMETERS

Used to measure air speeds or quantities of air passing through tunnels, mines, shafts, flues, etc., and for test and survey work in the Air-Conditioning, Ventilating and Industrial Fields.

Anemometers listed below are fitted with instant zero setting levers, also disconnect levers to stop movement of the hands at any point.



- 73081** Taylor "Biram" (domestic) 4" diameter. 3 dials reading to 10,000 feet. Jeweled movement, disconnect, automatic zero setting attachment, in carrying case, with corrections for use from 200 to 3000 feet per minute.

EACH

- 73082** Davis "Biram" Anemometer, 4" diameter. Two dials reading to 1000 feet. Lever zero setting with disconnect. Suitable for air speeds from 75 to 1000 ft. per minute, with correction chart. In leather sling case.

EACH

- 73083** Davis "Biram" Anemometer, 4" diameter. Four dials reading to 100,000 feet. Lever zero setting with disconnect. Sensitive at low speeds, yet covers a wide range. Correction chart with each instrument. In leather sling case.

EACH



73083

See Price List Inside Back Cover



73091

POCKET MAGNETIC COMPASSES

All compasses listed have jeweled needles, and stops to hold needle securely when not in use. They are sturdy and thoroughly reliable.



73092



73093

73091 "Leedawl," flat needle, black bakelite open-face case

EACH

73092 "Litenite," floating dial, North and South points with permanent luminous markings. In sturdy bakelite case.

73093 "Gydeway," bar needle over aluminum dial. Green plastic Hunter case with locking device when case is closed.

PEDOMETERS



73094



73095

73094 Pedometer, watch pattern, nickel case, registering distance walked up to 100 miles.

73095 Pedometer, high grade, watch pattern, nickel case, registering up to 100 miles with automatic zero setting.

EACH

See Price List Inside Back Cover

ENGINEERING AND SURVEYING ANEROIDS

Compensated for Temperature



73101

One of the best field instruments for accurate and rapid approximate surveys in ascertaining variations in gradients and levels in road making, railways, canals, water-courses and in mining.

EACH

73101 Engineers' Aneroid Barometer. Aluminum case with 3-inch dial reading to 5000 feet, in 20-foot divisions. In velvet-lined leather sling carrying case.

73102 Same as **73101** except reading to 10,000 feet in 50-foot divisions.

See Price List Inside Back Cover

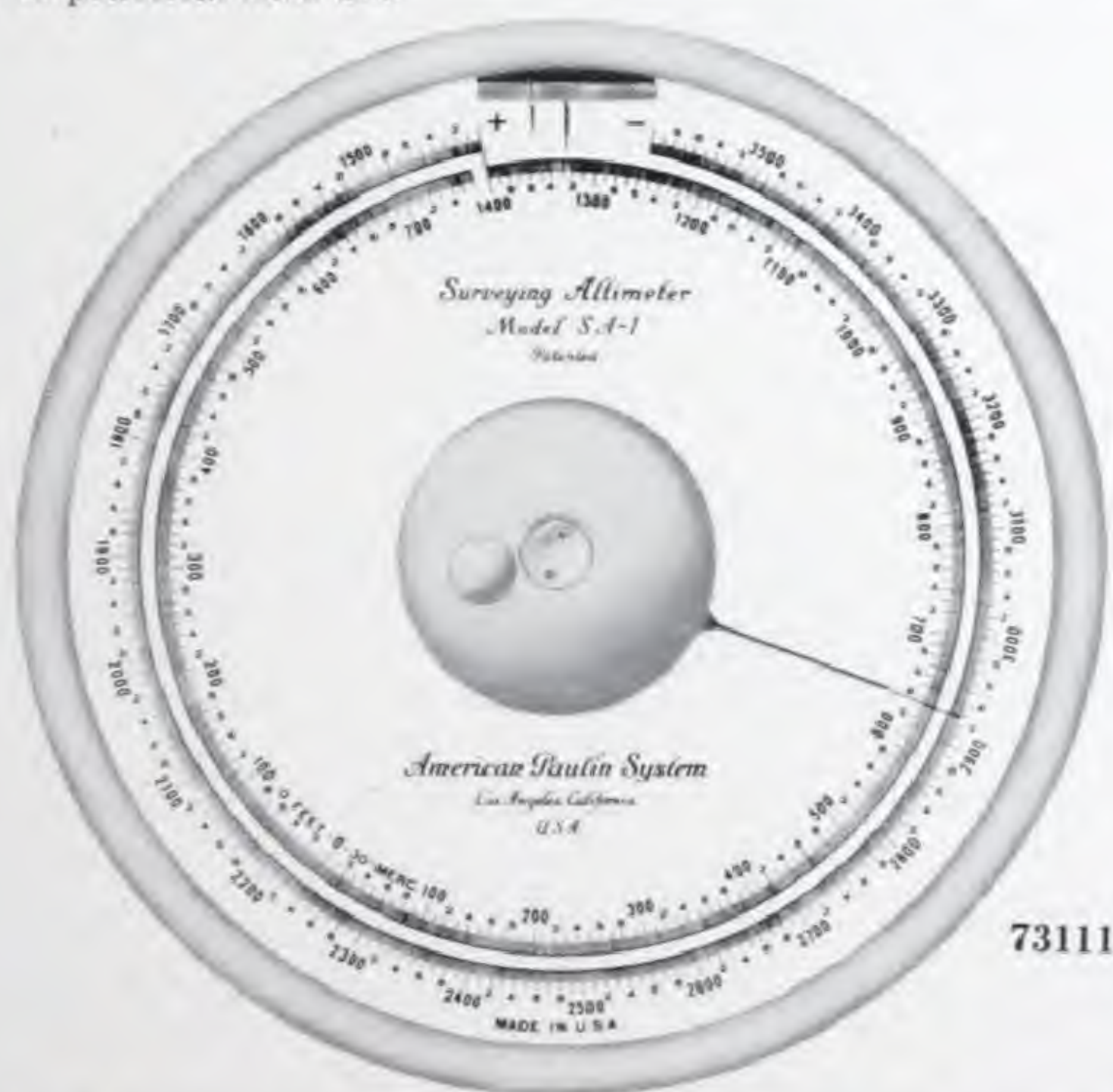
"PAULIN" SYSTEM PRECISION ALTIMETERS

The American "Paulin" System presents their new "SA" series of surveying Altimeters embodying many important improvements and refinements. New world standards in sensitivity and accuracy have been attained.

Our exclusive system of instrumentation is the first new principle in Aneroid construction in over a hundred years. Ever since the time of Vidi, all aneroid altimeters and barometers have been constructed on the chain-and-lever principle, or minor adaptations, whereby the diaphragm fluctuations have been conveyed to readings on the dial through a combination of pivots, sectors, chains, bearings and levers, each of which represents a frictional part to detract from the sensitivity and accuracy of the instrument. All these parts are eliminated in American Paulin System construction, wherein pressure change is directly and without friction read in terms of feet altitude or inches pressure on the dial. Our instruments operate on the nul or zero-gauging principle and are temperature-compensated. They indicate altitude instantly without lag and it is never necessary to "tap" or vibrate the instrument to take readings. The altitude indicator is knife-edge and the balance indicator is needle point with mirror to eliminate parallax.

American Paulin System instruments are in use throughout the world. In this country they are specified by various departments of the Federal Government, States and Municipalities, as well as all leading surveyors, engineers, explorers, geologists, oil and mining companies, educational institutions, laboratories and many others.

These new instruments have been designed to give you a lifetime of accurate and reliable service in practical field use.



73111

Range: Graduated in intervals of 2 feet, this instrument has a range of 4,360 feet (—760 feet to 0 to + 3,600 feet).

Dial: Non-glare precision scale with etched text.

Dimensions: Diameter 5". Height 3". Weight (with case) 43 oz.

Carrying Case: Instrument contained in handsome leather carrying case with hand and shoulder straps, designed for rugged field service.

Extras Furnished: High-grade Magnifier and Pocket Thermometer.

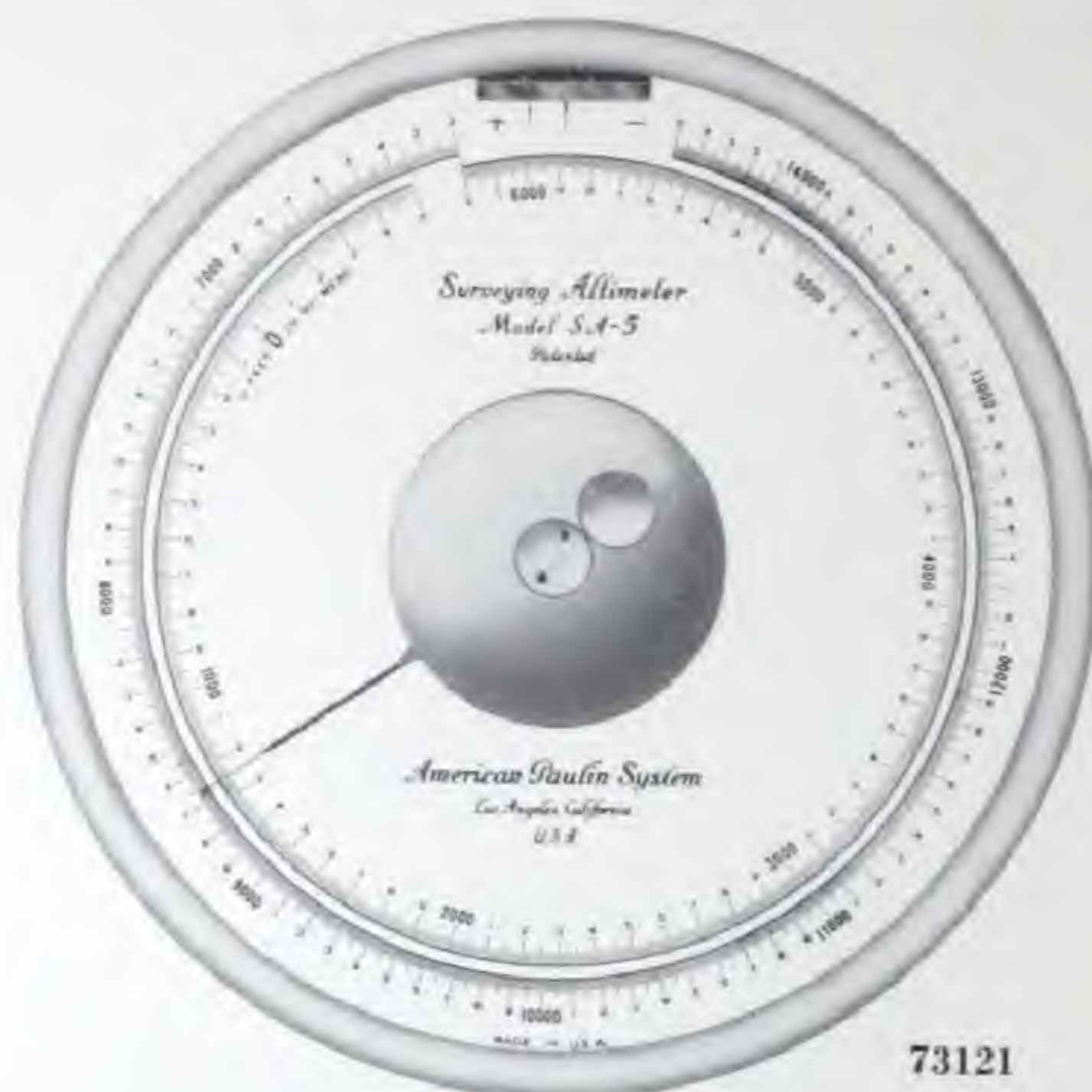
EACH

73111 (SA-1) Surveying Altimeter, including Case, Magnifier and Thermometer

NOTE—Numbers shown in (—) represent manufacturer's numbers

See Price List Inside Back Cover

“PAULIN” SYSTEM PRECISION ALTIMETERS



Range: Graduated in intervals of 5-feet, this instrument has a range of 10,600 feet (— 900 feet to 0 to + 9,700 feet).

Dial: Non-glare precision scale with etched text.

Dimensions: Diameter 5", Height 3". Weight (with case) 43 oz.

Carrying Case: Instrument contained in handsome leather carrying case with hand and shoulder straps, designed for rugged field service.

Extras Furnished: High-Grade Magnifier and Pocket Thermometer.

73121 (SA-2) Surveying Altimeter, including Case, Magnifier, and Thermometer EACH

Range: Graduated in intervals of 10-feet, this instrument has a range of 15,000 feet (— 500 feet to 0 to + 14,500 feet).

Dial: Non-glare precision scale with etched text.

Dimensions: Diameter 5", Height 3", Weight (with case) 43 oz.

Carrying Case: Instrument contained in handsome leather carrying case with hand and shoulder straps, designed for rugged field service.

Extras Furnished: High-grade Magnifier and Pocket Thermometer.

73122 (SA-5) Surveying Altimeter, including Case, Magnifier and Thermometer EACH

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover

STADIA HAND LEVEL

HAND LEVEL
AND
STADIA LEVEL
IN ONE
INSTRUMENT



This hand level is a valuable instrument on preliminary surveys and railroad work, also for road contractors, excavating and building contractors, bridge and wharf construction and in pile-driving. The farmer also finds it indispensable in laying out irrigation and drainage ditches and water systems. It is simple to maintain a given fall or grade for sewers, as well.

This Improved Hand Level is a superior, high grade instrument in construction, workmanship and finish. The correctly arranged prism gives a clear and distinct image of the leveling and stadia features without glare or double reflection.

The design eliminates all screws on the outside of the case. The level vial is set in a heavy housing and is well protected.

Details of Construction

| | |
|-------------------------|-------------------------------|
| 1 Eyepiece cap | 11 Prism block |
| 2 Draw tube | 12 Prism block screw |
| 3 Main hand level tube | 13 Spring holding prism |
| 4 Cap holding magnifier | 14 Plunger spring |
| 5 Magnifying lens | 15 Plunger |
| 6 Insert unit complete | 17 Adjusting screw |
| 7 Plug screw | 18 Object cap |
| 9 Prism | 20 Object lens |
| 10 Level vial | 21 Leather case (either size) |

EACH

| | |
|-----|---|
| 131 | Hand Level, Standard 7" without Stadia..... |
| 132 | Hand Level, Standard 7" with Stadia..... |
| 133 | Hand Level, Special 10" without Stadia..... |
| 134 | Hand Level, Special 10" with Stadia..... |

Furnished in sewed leather belt loop case

See Price List Inside Back Cover



LOCKE HAND LEVELS

WITH DRAW TO EYE PIECE

The Locke Hand Level is indispensable for use in preliminary surveys. It is surprising the accuracy which can be obtained with the "Hand Level." It is equipped with a magnifying lens for magnifying the bubble, also brings the cross line into sharper and finer focus. The eye therefore is relieved of considerable strain. Furnished with a sewed leather belt loop carrying case, in cardboard box.



73141

73141 Locke Hand Level, round, made of brass, durable black finish.

..... EACH

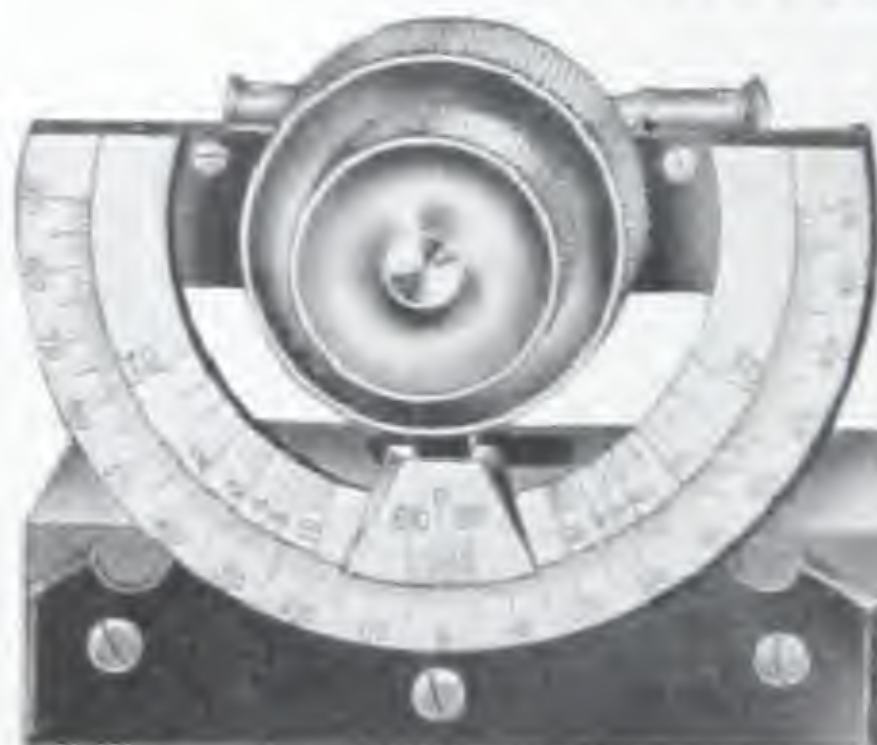
73142 Hand Level square type, brass, durable black finish, fixed eye piece.

..... EACH



73142

ABNEY COMBINATION HAND LEVEL



73145

The "Improved Abney" is used for ascertaining the height of buildings, trees, or other objects. Also for setting gradients for railways, drainage, and mining purposes, and any survey where angular distance or inclination of surface is required. When the height of any object is to be taken, a fairly level piece of ground should be

selected and a line say 100' correctly measured from the object. This forms the base line.

At the end of this line the observer should stand and then directing his vision through the tube of the level, he should elevate it at the objective end until the highest point of the object is seen bi-sectioned by the cross wire of the reflector within the tube. While holding it steadily in this position, the spirit level which is attached to the axis of the arc should be turned upon its center by means of the milled head until the bubble reflected in the mirror is bi-sectioned by the cross wire of the reflector. The alignment is then complete and the height of the object is obtained by reading off the index of the arc.

..... EACH

73143 Abney's Reflecting Level or Pocket Altimeter, square sighting tube 5", (Vertical arc 1") graduated 90 degrees in each direction in single degrees, vernier reading to 5 minutes, scale of grades from 1:1 to 1:10, 1" bubble, in stitched leather case.

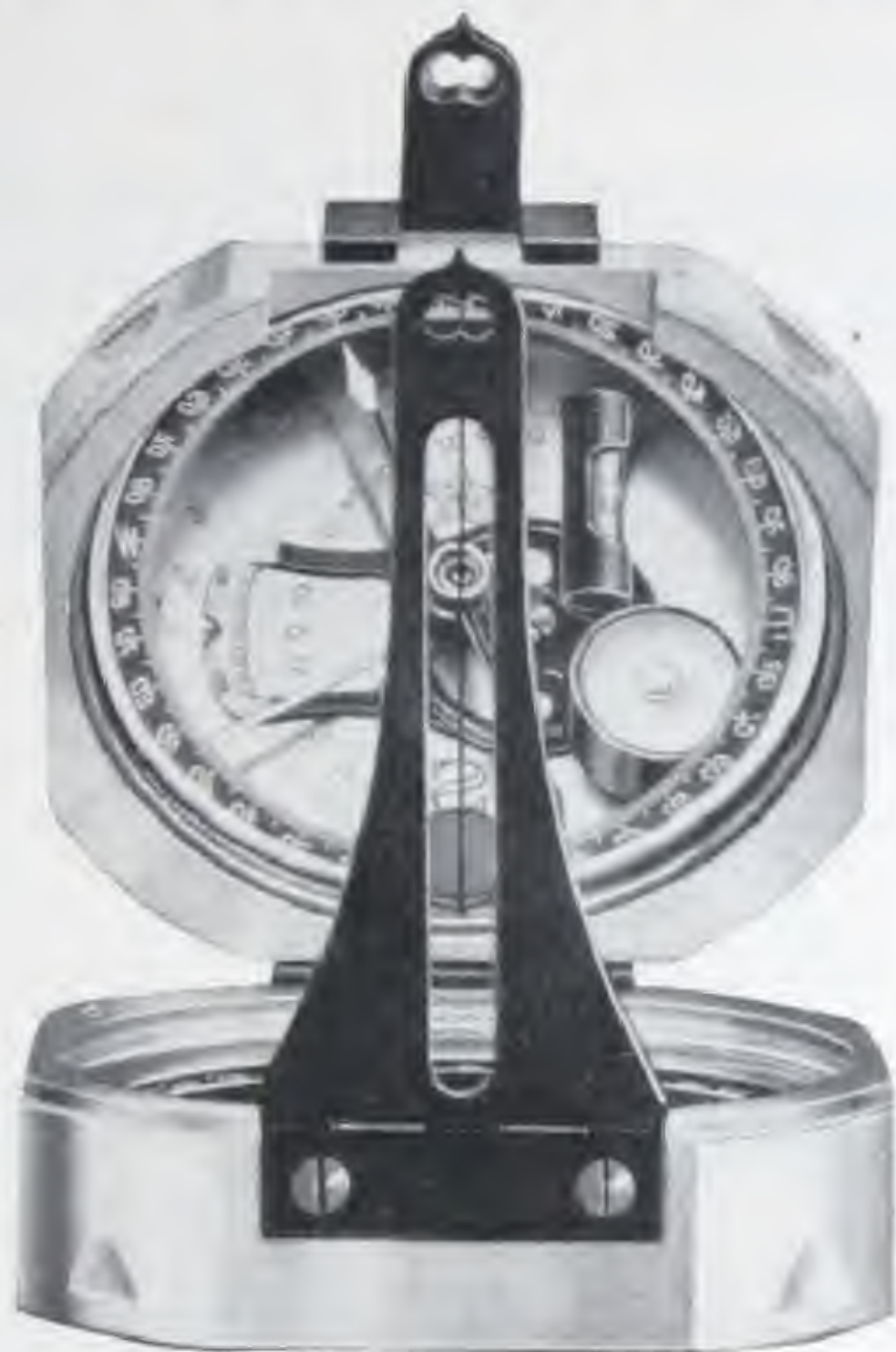
73144 Same as above, but with percentage grade.

73145 Abney's Reflecting Level or Pocket Altimeter, 5" with divided arc to show angles and with compass with bar needle, and socket for Jacob Staff, in stitched leather case.

73146 Same as above, but with percentage grade.

See Price List Inside Back Cover

THE BRUNTON PATENT POCKET TRANSIT



73151

EACH

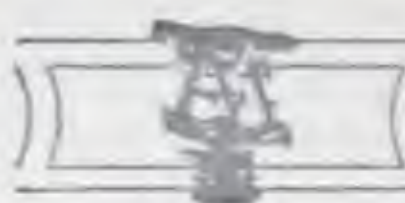
- 3151 Improved Type Brunton Pocket Transit, without case
- 3152 Ball and Socket Tripod Head
- 3153 Tubular Extension Tripod
- 3154 Leather Case with belt loop for instrument only
- 3155 Leather Case with sling strap for instrument only
- 3156 Leather Case for instrument, tripod head and tripod with sling strap

The Brunton Pocket Transit is a complete, accurate and reliable pocket instrument, which has commanded a large sale during the past 30 years, and lately certain important improvements have been added. It has an aluminum case measuring $2\frac{3}{4} \times 1\frac{1}{8} \times 1\frac{1}{8}$ inches, which completely encloses the instrument, and the size permits it to be easily carried in the vest pocket, thereby obviating the use of leather case, although several types of these are listed above. The magnetic variation is set off by means of the dotted head pinion shown in one corner of the case, which may be revolved by means of a screw driver or knife blade.

It is well adapted for use in taking courses, horizontal angles, vertical angles or grades and long tangents, and can be used as a level, clinometer and plumb. It is used a great deal for vein tracing.

Transits and Levels repaired on short notice at lowest prices

See Price List Inside Back Cover



BUILDERS' LEVEL



73161

Telescope: Erecting 12" long, dust proof; magnifying power 25x, 1- $\frac{1}{4}$ " objective with rack and pinion; spiral eyepiece for focusing Cross-Hairs.

Spirit Level: 5" long, ground and graduated, 60 seconds.

Level Bar: Reinforced cast bronze; compact wrought wyes and clips with improved lock pins.

Circle: 4" machine-divided to degrees and quadrants, with corrugated edge for setting to zero; vernier reading to 5 minutes, with clamp and tangent.

Center: Bell Metal, accurately fitted, 4 leveling screws with cups attached; shifting center and base plate with trivet points.

Equipment: Finished hardwood carrying case, with plumb bob, sunshade, etc., and full-length Tripod.

- | | | |
|-------|--|------|
| 73161 | Builder's Wye Level | EACH |
| 73162 | Extension Tripod, extra | |
| 73163 | Builder's Dumpy Level, same construction as No. 73161 but without wyes. Having permanently fixed, rigid telescope support. | |

Transits and Levels repaired on short notice at lowest prices

See Price List Inside Back Cover

A REAL TRANSIT-LEVEL

ACCURATE—SIMPLE—RIGID—EFFICIENT

Can be instantly changed from level to transit or transit to level position without loosening or fixing any parts, without disturbing its adjustments, without danger of dropping telescope or replacing it reversely.

Guaranteed accurate and foolproof; no technical knowledge required; easy to operate—no chance for error; always ready for use; no adjustments to worry about.

HAS MANY VARIED USES



In Transit Position

Designed especially for heavy duty work in building and road construction.

Finding differences in elevation.

Determining grades for building.

Laying out lots and foundations.

Aligning foundation piers.

Checking walls in construction.

Obtaining angles of any desired degree.

Interior leveling of floors, shafts, etc.

No. 73181 Transit-Level supersedes all other known Builders' leveling devices in every one of their most vital points. The crossbar and wyes of the older type of combination machine are supplanted by a single truss standard frame of entirely novel construction. This eliminates all parts which in other machines are exposed to damage and resultant inaccuracy.

See Price List Inside Back Cover



TRANSIT-LEVEL



73181

Level Position

OUTSTANDING SPECIFICATIONS

Telescope: 12" long. Erecting lens system of 25 power magnification, object glass $1\frac{1}{4}$ ". Extra long, unobstructed spirit level to telescope. Equipped with cross hairs, adjusted by spiral eyepiece.

Standards: External focusing cast integral with standard base. Improved bearings for telescope in transit position. Spirit level on standard plate.

Horizontal Circle: Silvered $4\frac{1}{4}$ " divided to degrees numbered from 0 to 90 in quadrants and vernier to 5 minutes. Circle is guarded.

Vertical Arc: 3" diameter reading to degrees. Easy to read.

Clamp and Tangent Screw: Improved clamp and tangent screw for both the Vertical and Horizontal Motion.

Leveling Head: Extra heavy with shifting center. Trivet style Leveling plate.

Ball Bearing Race: A patented feature, insures perfect adjustment under the most severe conditions. Steel center with end thrust adjustment.

Equipment: Fine hardwood carrying case, tripod, sunshade, adjusting pins, plumb bob, etc.

Weight: Instrument 11 lbs., tripod 9 lbs.

EACH

73181 Transit-Level, in carrying case, complete with accessories and full-length Split Leg Tripod

EXTRAS

73182 Extension Leg Tripod

73183 Fixed Stadia Wires

73184 Compass

See Price List Inside Back Cover

TRANSITS AND LEVELS



GURLEY



Go
simpli
design
in the
one fac

Go
specifi
treated
special
Lenses
the Go
million
minim
mitting
instrum

TH
nation
depend

TH
dividu
suitabl
accura

In
Leveli

As
to give
rest.

GURLEY ENGINEERING INSTRUMENTS

Gurley Engineering Instruments are characterized by accuracy, simplicity, durability, and ease and permanence of adjustment. They are designed by engineers who seek and understand the problems of the man in the field. They are made by workmen of long experience, all parts in the factory, with the finest of equipment at their disposal.

Gurley uses only virgin alloys of bronze and aluminum held to rigid specifications. Castings are made in the Gurley foundry and are heat-treated to remove internal strains. The rod, bar and tubing material is specially selected and parts are likewise heat-treated where necessary. Lenses, prisms, glass reticles and level vials are ground and polished in the Gurley optical shop using gages that indicate surface differences of a millionth of an inch. All parts are made to close tolerances requiring minimum fitting on assembly and many parts are interchangeable permitting replacement by the field user or local repair shop. A Gurley instrument spends most of its time in service.

Their distribution is world-wide, being sought by engineers of many nationalities because of their proven accuracy on important projects and dependability under all climatic conditions.

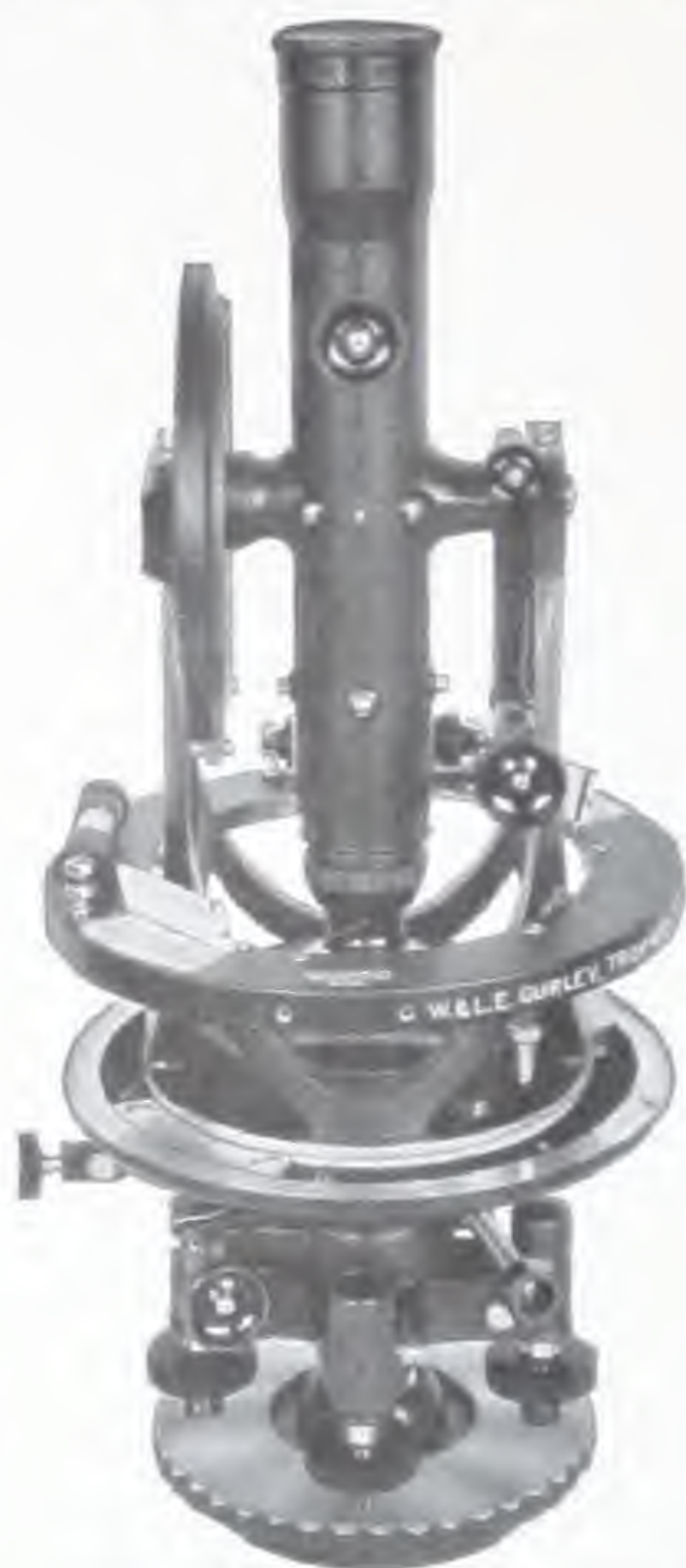
The instruments listed herein are in sufficient variety to meet individual preferences, are all made to the same degree of precision and are suitable for any type of surveying work up to the higher orders of geodetic accuracy.

Instruments for First or Second Order Triangulation, Traversing or leveling are made to order only.

As always, Gurley Instruments are backed by an unqualified guarantee to give satisfaction to the user and to make good any deficiency without cost.



FEATURES OF GURLEY TRANSITS



Cover guard to limb and verniers. Easily raised for cleaning limb and verniers. No need to take apart centers.



Extra large repeating centers of anti-friction bronzes. Shifting center, 8 thread baseplate. Leveling screws with bakelite heads; removable for cleaning or replacement, without taking apart centers.



Gurley Inner-Slide Telescope, protecting objective slide throughout focusing range. Repairable bearings. Collimation accurately adjustable for all distances. Regularly furnished.



Gurley Internal-Focusing Telescope. Zero stadia constant. Furnished when specified, at no extra charge.

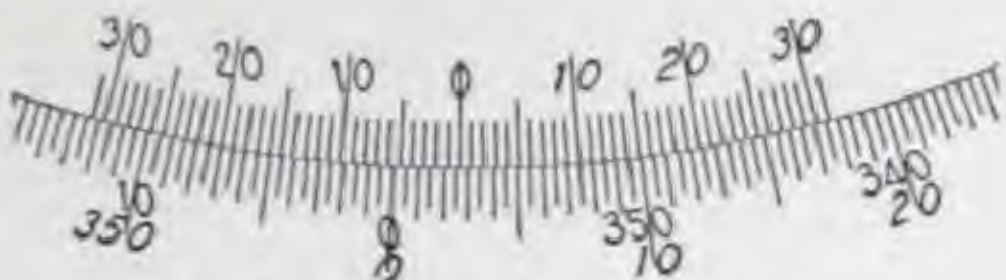


Multigroove bearings to telescope axis. No end play. Retain lubrication. Increase structural rigidity. Solidly attached cap, with adjustable friction bearings.



One-Piece Truss Standard and vernier plate, cast in one piece. Strength and rigidity with light weight. No Gurley transit is top-heavy.

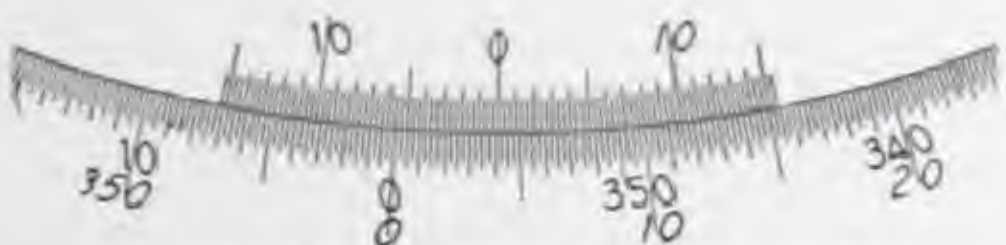
FEATURES OF GURLEY TRANSITS



Reading by verniers to 1 minute.
Limb divided to 30 minutes.



Reading by verniers to 30 seconds.
Limb divided to 20 minutes.



Reading by verniers to 20 seconds.
Limb divided to 15 minutes.

Accurate and easily-read graduations, on non-tarnishing, homogeneous ring.

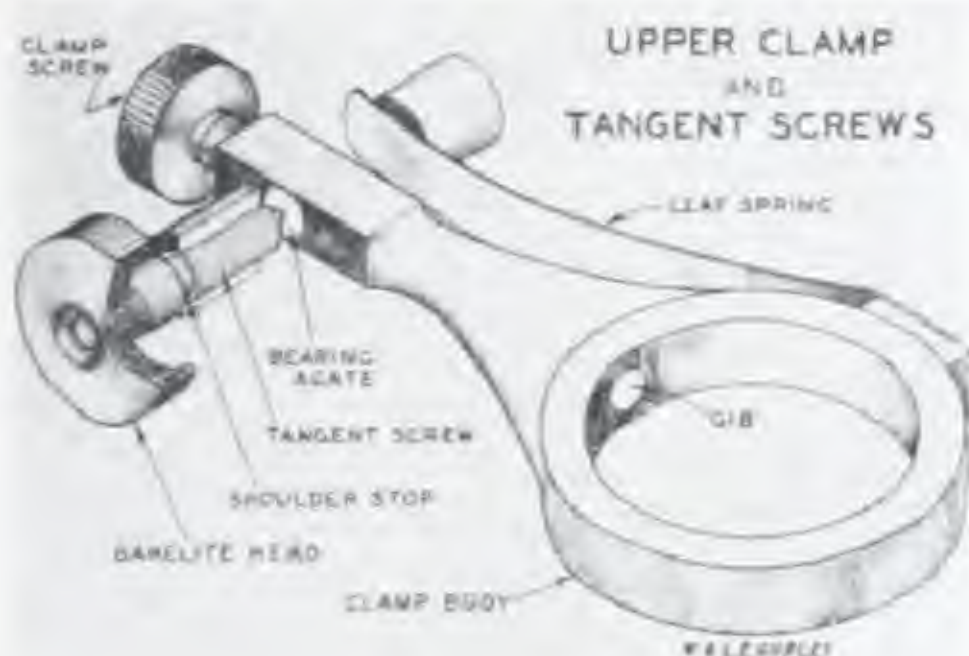
LIMB FIGURING

Limb IV, regularly furnished, as illustrated, in two rows, 0-360 both ways, inclined in direction of increase.

Optional, if ordered new, at same price, outer row, 0-360 clockwise, inner row 0-90 in quadrants. Specify as Limb I.



Focusing, adjustable microscope, magnifying 9x. Should be used with graduations reading finer than 1 minute, to prevent parallax errors. Glass over vernier flush with plate, waterproof. Reflectors to all plate verniers, except No. 110 Series



Precisely centered and fitted symmetrical clamp tangent screws finely fitted, threads protected from dirt and dust, with adjustable take-up for wear. Non-jamming. Flat leaf-type tangent springs give smooth and positive action. Agate in tangent arm prevents screw from boring into arm.



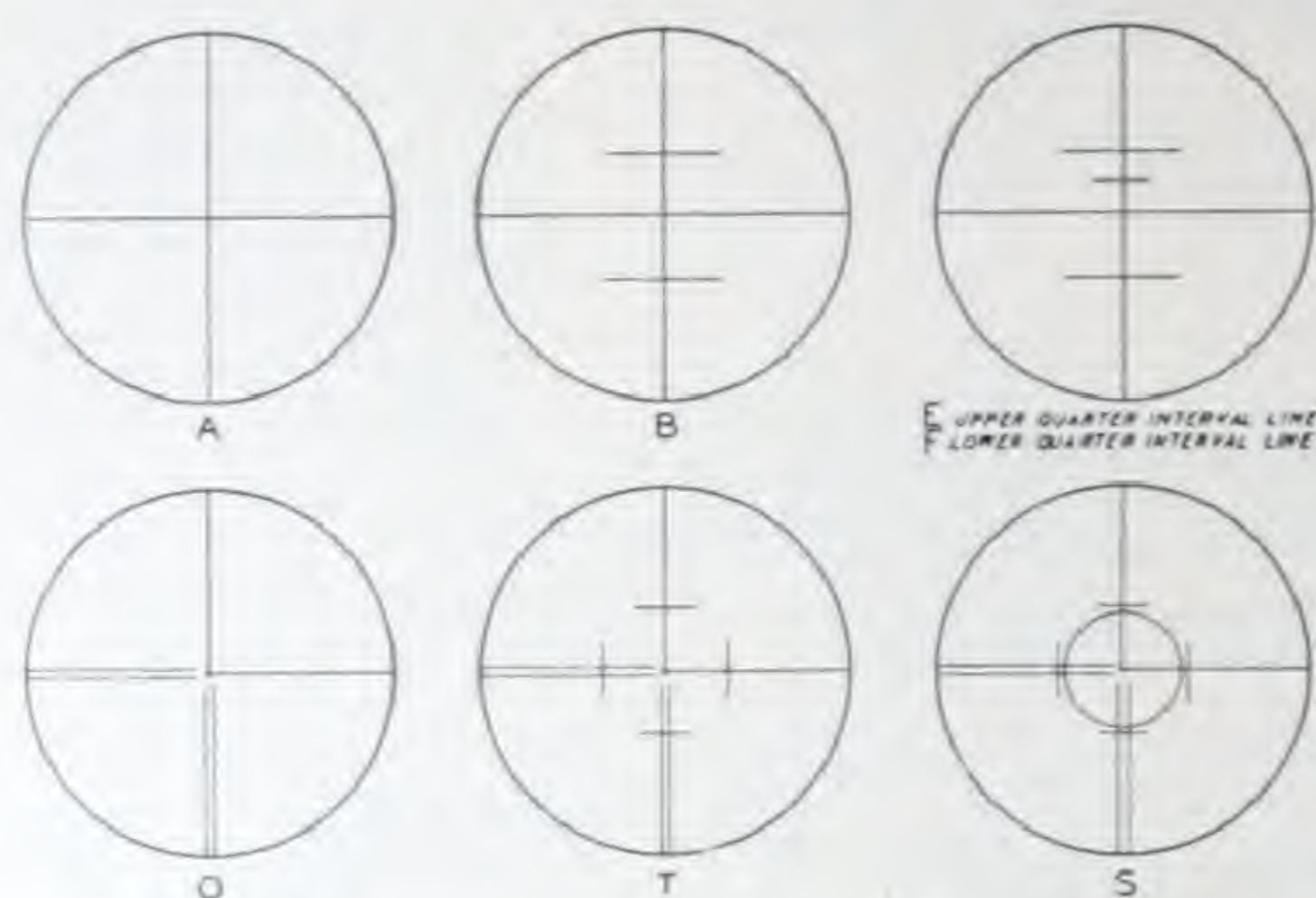
Level vials, circular at all cross-sections (barrel-shaped inside), machine-ground to optical smoothness. Sensitiveness commensurate with fineness of limb reading. New easy adjustment to plate levels. Reversion level regularly furnished on all telescopes.



Gurley top-opening box completely cradles the transit and helps maintain adjustment. Cushioned on springs. Easy to remove or replace instrument.

FEATURES OF GURLEY TRANSITS

Glass Reticles



An improvement in the telescopes of all Gurley Engineering Instruments is the adoption of glass reticles, which replace the fine platinum wires formerly used. With the glass reticle, breakage is unlikely, the lines are uniform, are accurately spaced, and the stadia lines are very easy to identify because they do not go to the edge of the field of view. For this reason, the "disappearing stadia" reticle, and the diagonal reticle, are unnecessary and are no longer furnished.

The reticle is made of thin glass, ground and polished optically flat, and precisely ruled. It may be cleaned if necessary.

Description of Reticle Patterns

If one of the reticles illustrated is desired in place of the reticle regularly supplied with the Transit, add number 155 and suffix-letter of the reticle to the catalog number of the instrument; as No. 82R-155T.

- A. Plain cross-lines. For Levels.
- B. Cross-lines and stadia lines, spaced 1:100. Furnished with all Transits, except No. 112-RT.
- E. Quarter-interval stadia lines in upper field, added to "B" permitting stadia readings of 1:400. For Alidades.
- F. Quarter-interval stadia lines in lower field, otherwise like E.
- O. Parallel horizontal and vertical lines combined with regular cross-lines. Improve accuracy of pointing. Recommended for triangulation and for stellar observations.
- T. Stadia lines spaced 1:100 horizontally and vertically, added to "O".
- S. Solar reticle (furnished with No. 112-RT Solar Transit). A combination of "O" and "T" with a circle 15' 45" radius for centering the sun's image.



SPECIFICATIONS OF GURLEY TRANSITS

Telescopes: Erecting, Gurley Inner-slide focusing, unless otherwise specified. Inverting optics, internal focusing, and lower magnification, optional. Unusually large aperture and field, with close minimum focusing. Superior optics of Gurley manufacture.

Graduations: Fine, clean-cut, black filled lines on non-tarnishing surface; figured 0° to 360° both ways, figures inclined in direction of increase; with two opposite double verniers; attached focusing microscopes for graduations reading 20 seconds.

Vertical Limb: 5 inches diameter, divided to 30 minutes, reading to one minute, figured in quadrants; with removable duralumin type alloy guard. Vertical limb may be omitted on any transit.

Compass: Flat bar needle, $3\frac{1}{2}$ inches long, ($4\frac{1}{2}$ inches on No. 82R, sapphire jewel bearing, crystal glass cover set in screw bezel ring, waterproof, movable variation circle graduated to read to half degrees (vernier reading to 1 minute on No. 82R). Compass may be omitted on all transits, except No. 82R.

Level Vials: Unusually long telescope level, positively adjusted by opposing capstan nuts, vial of reversion type, with bubble readable in under or over positions, greatly simplifying adjustment. Sensitiveness 30 to 50 seconds, depending upon fineness of limb reading. Side and transverse vials with new easy adjusting mounting, sensitiveness 80 seconds. All vials ground to curvature.

Equipment: Top-opening mahogany box with hooks and padded carrying strap; adjustable spring packing blocks to cradle transit and to protect adjustments during transportation. 14 ounce plummet, screw driver, adjusting pins, needle and bottom wrench, 1" magnifier, oil can, sunshade, Cox Stadia Computer, Adjustment Booklet.

Tripod: Fixed-length ash legs, 58 inches long, 8 thread bronze tripod head, aluminum cap. Unusually rigid. Standard weight, 12 lb. (402), furnished regularly with transits Nos. 52FR and 132R. Extra-heavy $14\frac{1}{2}$ lb. (402-S) furnished with Nos. 52FR and 132R when graduated to 30 seconds or 20 seconds; and extra with other models. Extension-leg tripod $10\frac{1}{2}$ lb. (407) furnished regularly with transits Nos. 82R and 112R; and extra with Nos. 52FR and 132R.

Materials: Centers and all bearings of bronze; structural parts of high strength duralumin type alloys. Nickel alloy screws and bakelite heads.

NOTE—Numbers shown in (—) are manufacturer's numbers

GURLEY PRECISE TRANSITS



HELL GATE 52-FR, 52-FRH-30 and 52-FRH-20

Municipal Engineering
Private Engineering
Highway Location
Dams, Bridges, Railroads
Industrial Plants
Sub-divisions

- | | | EACH |
|-------------------|--|------|
| 73241 (52-FR) | 6 $\frac{1}{4}$ " Limb, reading to 1 minute; 12-inch telescope, internal focusing, 27x, 1.57-inch aperture, minimum focus 6 $\frac{1}{4}$ ft. Reversion Telescope Bubble. Full circle and guard. 3 $\frac{1}{4}$ -inch Needle. Weight 13 $\frac{1}{4}$ lbs. Tripod (402) 12 lbs. | |
| 73242 (52-FRH-30) | Same as above, but Horizontal Limb only reading to 30 Seconds and (402S) Extra Rigid Tripod. | |
| 73243 (52-FRH-20) | Same as 73242, but Horizontal Limb only reading to 20 Seconds, attached focusing Microscopes and (402S) Extra Rigid Tripod. | |

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover



B. K. ELLIOTT COMPANY



GURLEY PRECISE TRANSITS



73251 — GURLEY "MOUNTAIN AND MINING" PRECISE TRANSITS

New improved model provides a longer compass needle with vernier for setting off magnetic declination to single minutes, a firmer levelling base with wider spread to the leveling screws and a greatly strengthened One Piece Truss Standard.

EACH

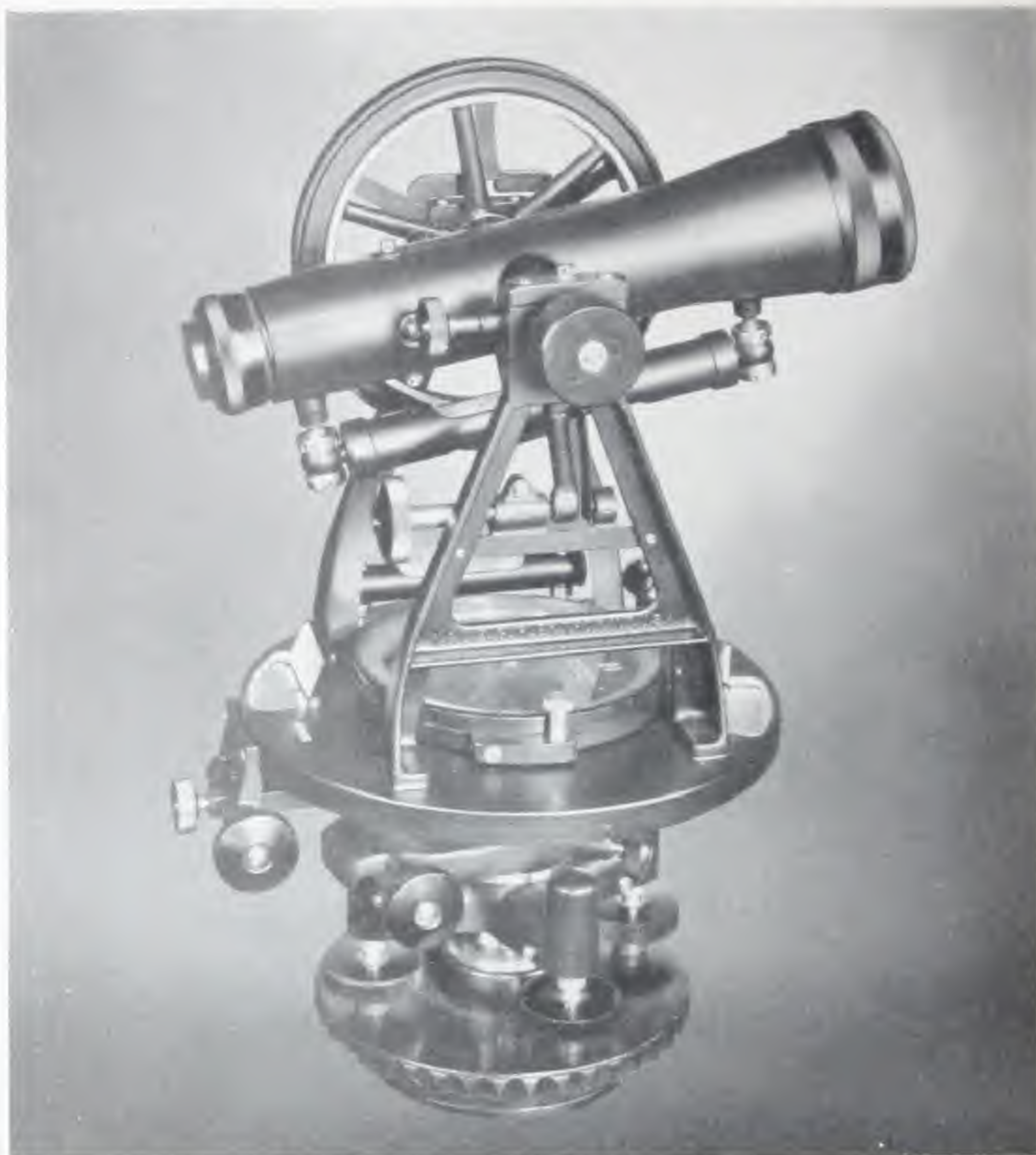
51 (82-R) 5.65" Limb, reading to 1 minute; 10" telescope, 22x; 1.57" aperture, minimum focus 6½ ft. Reversion Telescope Bubble. Full Circle and Guard reading to 1 minute. 4½" needle with movable variation circle and vernier reading to 1 minute. Extension Tripod. Weight 11½ lbs. Tripod 10½ lbs.

52 (83-R) Same as above but with Vertical Arc instead of Full Circle.

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover

GURLEY PRECISE TRANSITS



73261 — "STANDARD" PRECISE TRANSITS ENGINEERS MODEL

Highways, Roads, Streets, Sewers, Farms and Lots, Buildings, Mines, Tunnels,
Dams, Bridges, Railroads, Private Engineering Stadia Surveys

EACH

73261 (132-R) $6\frac{1}{4}^{\circ}$ Horizontal Limb reading to 1 minute. 10" telescope, 22x; 1.57 inch aperture, minimum focus $6\frac{1}{2}$ ft. Reversion Telescope Bubble, Full Circle and Guard, $3\frac{1}{2}^{\circ}$ needle. 732801 (402) Standard Tripod. Weight $12\frac{1}{2}$ lbs., Tripod 12 lbs.

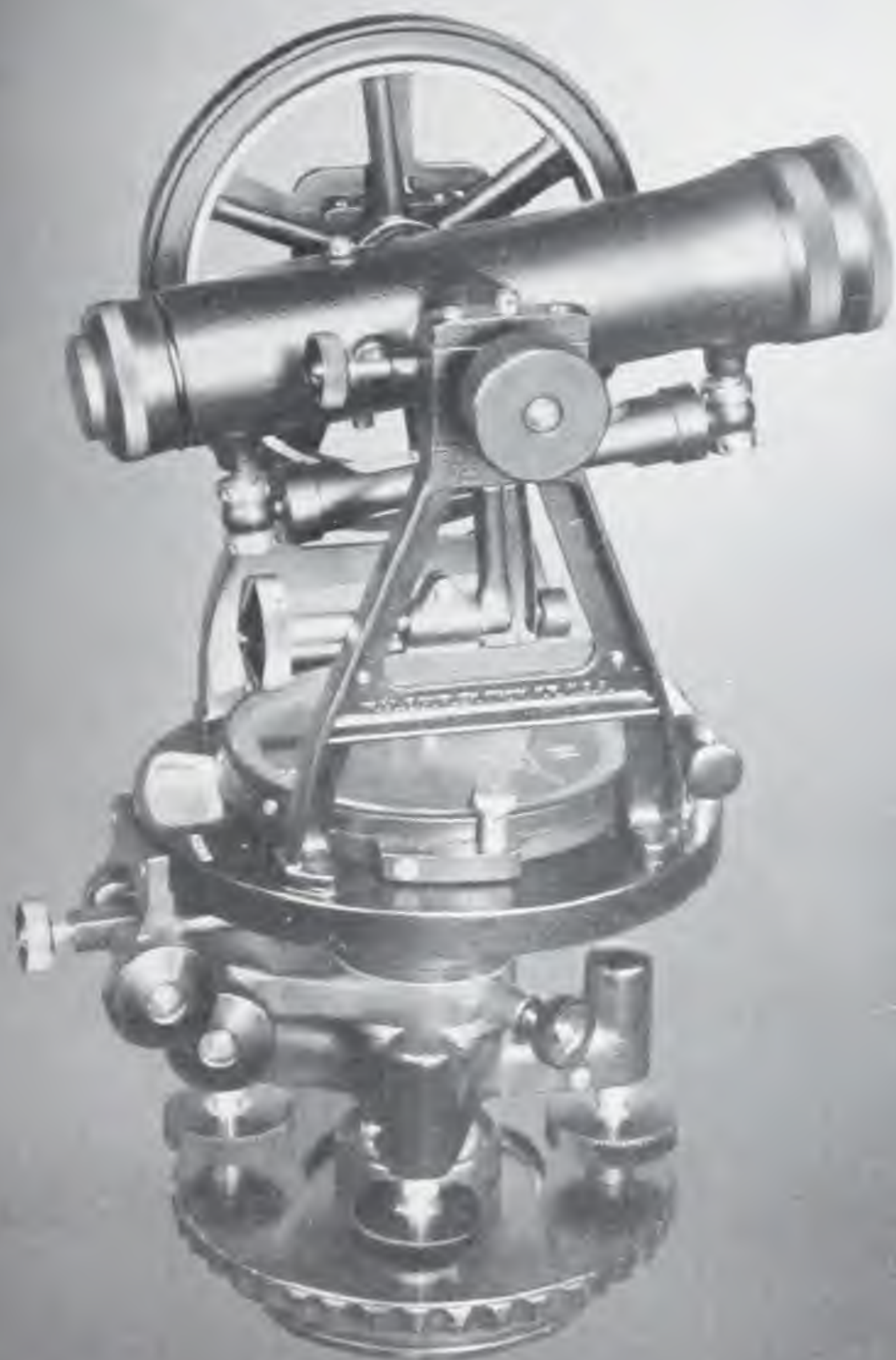
73262 (132HR30) Same as 73261 but with Horizontal Limb only reading to 30 seconds, and 732802 (402S) Extra Rigid Tripod.

73263 (132HR20) Same as 73261 but with Horizontal Limb only reading to 20 seconds, attached focusing Microscopes and 732802 (402S) Extra Rigid Tripod.

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover

GURLEY PRECISE TRANSITS



73271 — "STANDARD" PRECISE TRANSITS — Reconnaissance Model
 General Construction, Roads, Streets, Sewers, Buildings and Plants,
 Stadia Surveys, Farm Surveys, Grading, Mines

73271 (112R) $5\frac{1}{8}$ " Limb, reading to one minute; $8\frac{1}{2}$ " telescope, 17x, 1.37" aperture, minimum focus $5\frac{1}{2}$ ft. Reversion Telescope Bubble, Full Circle and Guard, reading to 1 minute, $3\frac{1}{2}$ " needle. **732803 (407)** Extension Tripod. Weight 10 lbs., Tripod $10\frac{1}{2}$ lbs.

EACH

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover



GURLEY TRIPODS

Gurley Tripods provide an exceedingly rigid base for the Transit or Level without unnecessary weight. The legs of fixed-length Tripods are of I-section, bolted to the Tripod head, and have ample bearing surface. The bolts are of large diameter, and the leg is tightened by means of a wing nut and washer. A keeper screw in the end of the bolt prevents loss of the wing nut. Heads are of bronze, with cap to protect the threads. The U. S. Standard tripod thread is used in all Gurley Tripods. This thread ($3\frac{1}{2}$ in. diameter—8 threads per inch) was evolved under the guidance of the National Bureau of Standards, has been regularly used on Gurley Instruments since 1930, and is usually required in U. S. Government specifications.

Fixed-length legs are of ash, extension legs of ash and maple. The legs are equipped with a well-fitted steel point, and will also be equipped with spurs if specified in ordering. Extension legs should be selected only for convenience, as they are not as rigid as fixed-length legs. For this reason, extension leg Tripods are only supplied regularly with Light Mountain and Reconnaissance Transits.

Refer to detailed specifications for the Tripod furnished with the instrument.



DESCRIPTION OF TRIPODS

- | | |
|---|-----------|
| | EACH |
| 732801 (402) Standard Tripod, fixed-length, I section legs, 58" long, made of specially selected ash. Forged pointed steel shoe pinned to leg. Bronze head, having standard threads ($3\frac{1}{2}$ "-8). Large bolts with knurled bearing to head, washers and wing nuts, with keeper screws. Light metal cap. Strap with buckle. Weight about 12 pounds. | |
| 732802 (402-8) Heavy Tripod, like No. 402, but with extra-heavy and extra-rigid fixed-length legs. Weight about $14\frac{1}{2}$ pounds. | |
| 732803 (407) Standard Extension Tripod, extension legs of hardwood, 57" long, closing to 35". Forged steel shoe pinned to leg, points may be reversed. Head same as No. (402). Light metal cap. Strap with buckle. Weight about $10\frac{1}{2}$ pounds. | |
| 732804 (409) Mining Extension Tripod, same as No. 407 Standard Extension Tripod, except 36" long, closing to 29". Weight about 9 pounds. | |
| | NO CHARGE |
| 732805 Spurs on Tripod legs, when specially ordered. | |
| 732806 Single Leg, extension. | |
| 732807 Single Leg, fixed-length. | |
| 732808 Tripod Cap. | |
| 732809 Tripod Head. | |
| 732810 Clamp for extension tripod leg. | |
| 732811 Tripod bolt, washer and wing nut. | |

NOTE—Numbers shown in (—) are manufacturers' numbers

No. 732801
Standard Tripod
With fixed-length
legs.

See Price List Inside Back Cover

No. 732803
Standard Tripod
with extension legs.

Go
of adjust
interval
single m
folding
compass
Gur
Johnson

A co
pograph

732
STANDAR
PRICE...

This
to be use
park deve
For

GURLEY ALIDADES

Gurley alidades are characterized by fine optics, durability, and ease and permanence of adjustment. The cross and stadia wires are ruled on glass, with additional quarter-interval line on all models. Axis bearings are multi-groove. The vertical arc reads to single minutes, and also has Beaman Stadia Arc graduations. A gradienter, an attached leveling microscope to the arc, a control level, and striding level, and 4" dustproof box compass, are supplied.

Gurley plane table boards are made in a number of sizes, and are used with the Johnson Plane Table Movement, with plain or extension tripod.



73291 (580)
EXPLORERS ALIDADE
 PRICE.....
 8½" Inverting Telescope
 Magnifying 10½x
 (17½x optional)
 11½" Blade
 Weight 4¾ lbs.

A compact instrument which has achieved world-wide use by oil geologists, topographers, and exploration parties.



73292 (582)
STANDARD ALIDADE
 PRICE.....

10" Inverting Telescope, 13x
 (21x optional)
 15" Blade
 Weight, 5¼ lbs.

This model is used for general plane table mapping, such as the taking of topography, can be used in establishing grades, computing "cuts" and "fills," mapping drainage areas, and water development, etc.

For further information covering Alidades and Plane Tables, write for catalog.

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover

GURLEY PLANE TABLE OUTFITS



73301
Explorers
Outfit

73302
Standard
Outfit

Johnson Movement For the Prospector

- 73301 (580-T)** Explorers Outfit—Consisting of:
73291 Explorers Alidade.
 Light Johnson Movement, with extension leg Tripod.
 Board, 15" x 15". Canvas Case with shoulder strap.

EACH

For the Topographer

- 73302 (582-D)** Standard Outfit—Consisting of:
73292 Standard Alidade.
 Johnson Movement, with fixed-length leg Tripod.
 Board, 31" x 24". Canvas Case with shoulder strap.

EACH

PLANE TABLE MOVEMENTS Johnson Movement with Split Leg Tripods

- 73303 (569)** Johnson Movement with extra heavy split leg tripod, weight about 12 lbs.....
73304 (570) Johnson Movement with regular split leg tripod, weight about 9¾ lbs.....
73305 (572) Johnson Light Weight Movement, with light weight split leg tripod, weight about 7½ lbs.....

EACH

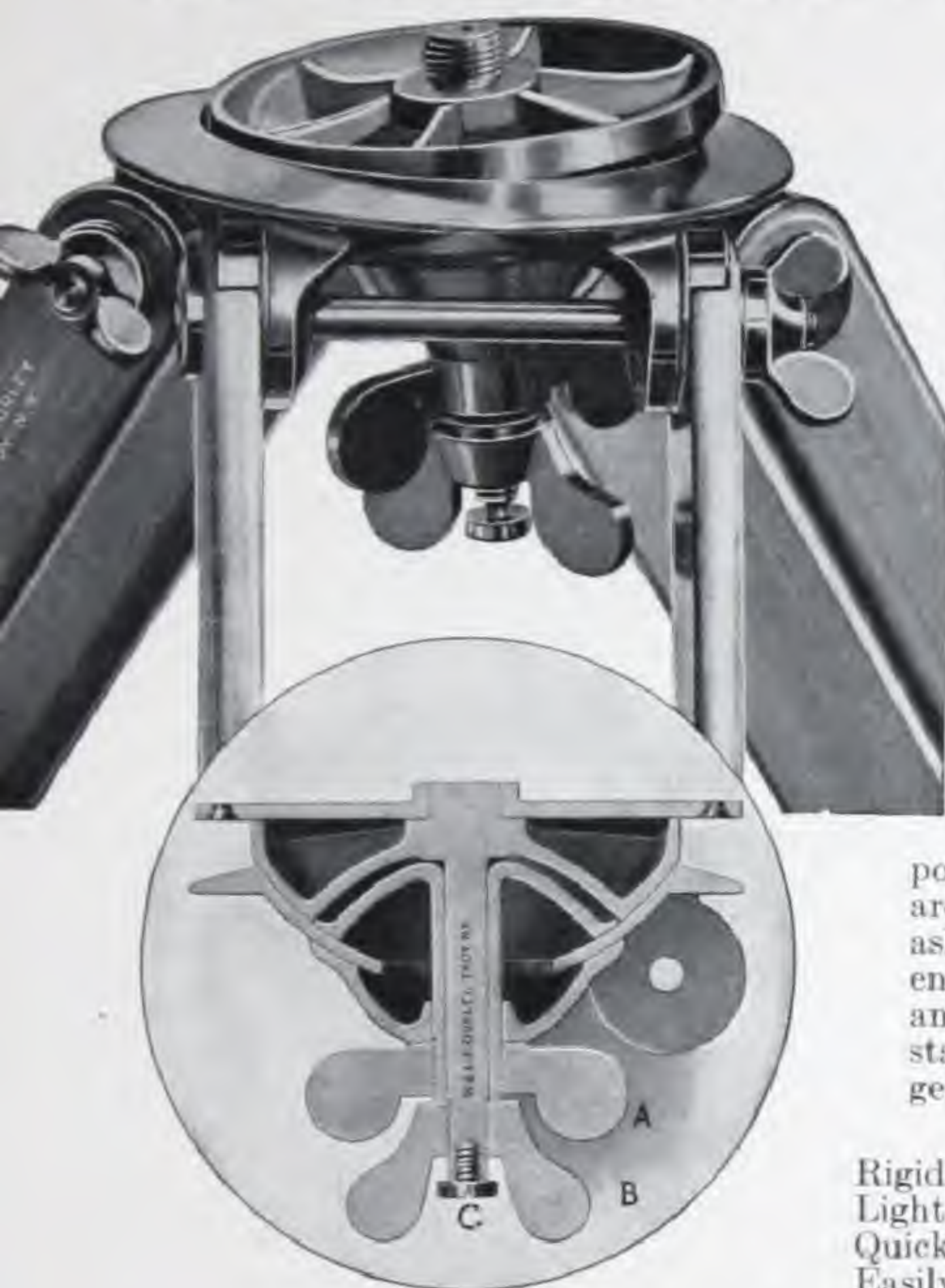
Johnson Movement with Extension Leg Tripods

- 73306 (570-A)** Johnson Movement with heavy extension leg tripod, weight about 11¾ lbs.....
73307 (572-A) Johnson Light Weight Movement, with light weight extension leg tripod, weight about 8½ lbs.....

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover

JOHNSON PLANE TABLE MOVEMENT



This portable plane table movement, a product of the experience of the U. S. Geological Survey, combines in a most satisfactory manner the characteristics listed below.

The movement consists of two cups accurately lapped together and arranged so that the plane table board can be readily leveled and rotated in azimuth. Large wing nuts clamp the board in position.

The movement, complete with tripod, weighs about nine pounds. The split tripod legs are made of straight-grained ash. The construction of the entire tripod insures strength and rigidity, and it is capable of standing rough usage without getting out of order.

Features

| | |
|-----------------|---------------|
| Rigid Support | Accurate |
| Light Weight | Convenient |
| Quickly Leveled | Durable Parts |
| Easily Oriented | Standardized |
| Steady in Wind | |

PLANE TABLE BOARDS

The following listed Drawing Boards may be used with either of the Plane Table Movements, excepting the 31" x 24" size, which we recommend should not be used with the 73307 Special Light Weight Johnson Movement. All Boards are fitted with brass screw plate on under side and with eight clamp screws and sockets for holding down the paper, except 733105 which has four. No. 733106 is fitted with springboard plate for traverse movement.

Boards having a catalog number with suffix "X", as No. 573-X, are especially constructed for use in tropical climates, having expansion battens or cleats to prevent warping. These are regularly carried in stock in two sizes, 24" x 31" and 18" x 24", as listed below, but the cleated board can be made to order in the other sizes at an extra price.

| | | | | | |
|--------------|---------|---------|---------|---------|---------|
| 733101 | 733102 | 733103 | 733104 | 733105 | 733106 |
| (573) | (573X) | (573A) | (573AX) | (573B) | (573T) |
| size 24 x 31 | 24 x 31 | 18 x 24 | 18 x 24 | 15 x 15 | 15 x 15 |

Prices for Plane Table Boards with Screw Plate Fitted vary according to sizes and construction features. Carrying Cases in Flexible Canvas with Shoulder Straps are available for all board sizes. Rigid Basswood, Canvas Covered, Carrying Cases can be obtained for all sizes.

Drawing Paper in white, buff and green, single or double mounted, available in sizes to fit boards.

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover



GURLEY PRECISE TRANSITS

Optional Modifications of New Transits

The following changes will be made without charge, on new Transits at the time they are ordered:

Graduations: Horizontal limb figured 0° – 90° inner row, 0° – 360° outer row. Designated as "Limb I".

Internal Focus Telescope: Eliminating stadia constant. Indicated by letter "F" added to catalog number.

Magnification: Telescopes can be furnished with extra eyepieces, giving

higher or lower magnifying power; or an eyepiece of a different power will be furnished in place of the regular one, without additional charge. List supplied on request.

Spurs To Tripod Points.

Vertical Arc (half circle), replacing full circle and guard.

Attachments and Extras for Gurley Transits

The following list of prices applies only to attachments and extras when they are to be added to a new instrument at the Factory.

| EACH | | EACH | |
|--------|---|-----------------------------|---|
| 733201 | (149) Beaman Stadia Arc (specify by suffix letter B, as No. 82-RB) | 733208 | (146) Reversion vial in Telescope Level, if not desired, deduct |
| 733202 | (168) Diagonal Prism with darkener, for observing sun | Special Graduations: | |
| 733203 | (169) Eyepiece Cap with darkener glass in shutter . . | 733209 | (185-C) Graduation of Horizontal Limb to read to 30 seconds |
| 733204 | (150) Gradiometer (specify by suffix letter G as No. 132-G) | 733210 | (185-B) Graduation of Horizontal Limb to read to 20 seconds |
| 733205 | (180) Magnifier with jointed arm for reading vernier . | 733211 | (187-C) Graduation of Vertical Limb to read to 30 seconds |
| 733206 | (181) Microscopes, focusing, 9x, for reading verniers, per pair (not on Light Mountain or Explorers Models) | 733212 | (187-B) Graduation of Vertical Limb to read to 20 seconds |
| 733207 | (165) Reflector for illuminating crosswires | 733213 | (489) Waterproof Hood . . . |

Attachments for Gurley Levels

| | | | |
|--------|--|--------|---|
| 733214 | (188) Level Vial, Sensitivity 10 seconds per graduation (2 mm.) instead of regular vial, extra | 733215 | (165) Reflector, for illuminating crosswires |
| | | 733216 | (155-B) Fixed stadia lines (added to new Level) |
| | | 733217 | (487) Waterproof Hood . . |

NOTE—Numbers shown in (—) are manufacturer's numbers

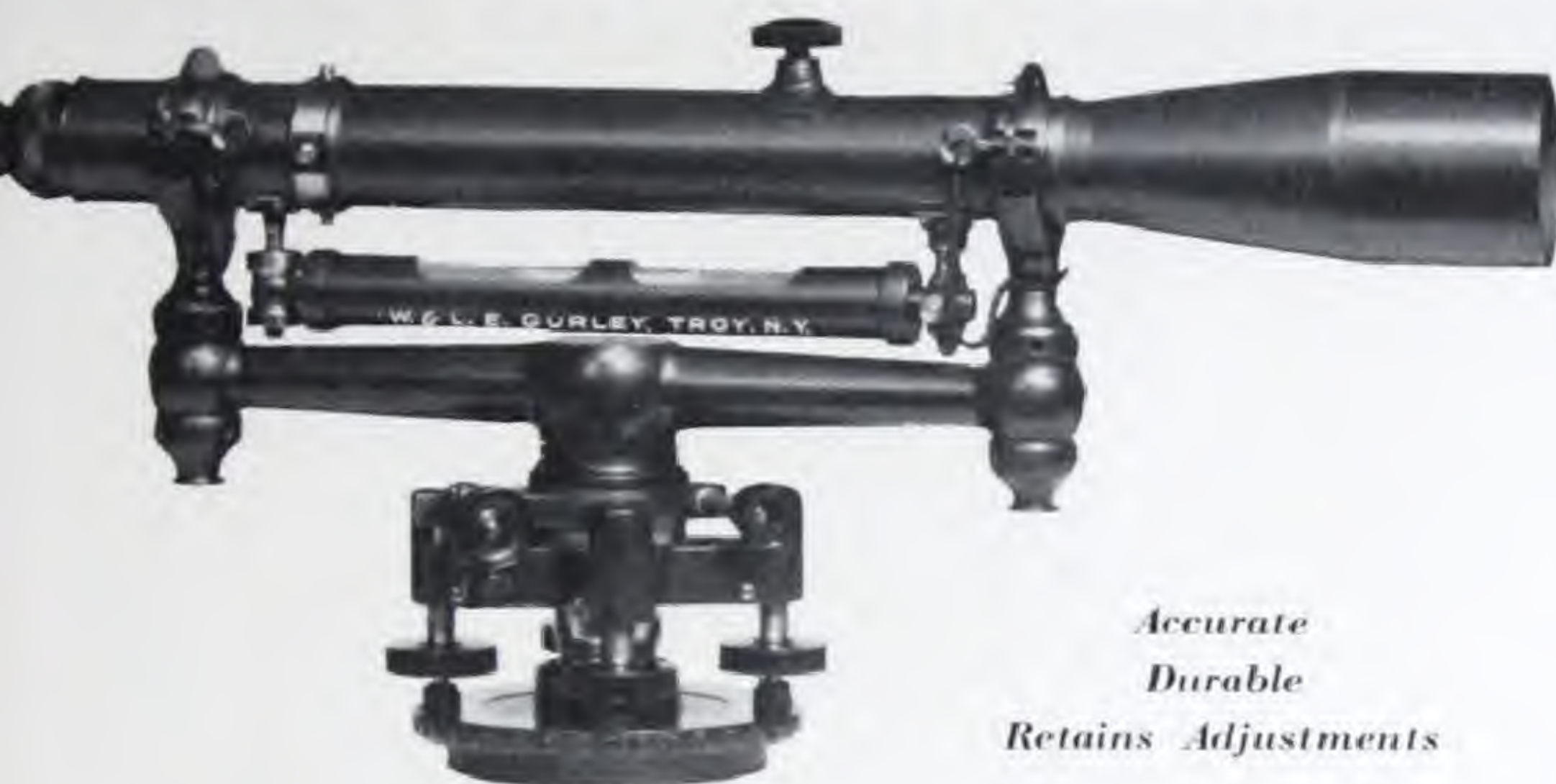
See Price List Inside Back Cover



B. K. ELLIOTT COMPANY



GURLEY ENGINEERS' WYE LEVELS



*Accurate
Durable
Retains Adjustments*

To engineers everywhere, the Gurley Wye Level is standard. The performance of this instrument over the last one hundred years is its best recommendation.

Telescope: About 18" long. Sharp definition, flat field of view. Image erect. Internal focusing. Sunshade. Cross lines ruled on glass reticle.

Level Vial: Finely ground, sensitive, and uniform in movement. Workable length of bubble under wide range of temperature. Mounted in rigid case, positively adjusted by opposing capstan nuts.

Bar and Wyes: Rigid and strong bar. Telescope wye supports are adjustable vertically by opposing large capstan nuts. One wye clip fitted with stop to maintain cross lines in true horizontal and vertical position.

Centers: Long tapered spindle and socket, ground, lapped and perfectly fitted. Free-running at all temperatures.

Improved Clamp and Tangent: Threads of tangent screw not exposed to dust at any normal working position. A

shoulder on the stem prevents jamming threads. Take-up adjustment to tangent screw nut compensates for wear. The tangent screw point thrusts against an agate bearing, for smoothness and long life.

Removable Leveling Screws: The leveling screws are fitted to bushings, which are clamped in the leveling head. Screw and bushing are removable for cleaning without removing the base plate. Worn or jammed screws can be replaced economically in the field.

Tripod: (402) Standard Tripod having fixed-length legs, 58" long, of selected white ash; forged steel shoes. Standard $3\frac{1}{2}$ " -8 thread to tripod head; (407) Extension-leg Tripod may be furnished in place of (402) at additional charge.

Equipment: Hard wood carrying case with hooks and strap, with sunshade, adjusting pins, screw driver, oil, center wrench, and instruction book.

73331 (377-F) Gurley Engineers Wye Level, 18" telescope, internal focusing, magnifying 38x, objective aperture 1.69", minimum focus about 9 ft. Telescope level $8\frac{3}{8}$ " long, sensitivity of bubble about 25 sec. per 2 mm. graduation. Weight, of Level 13 lbs., of Tripod $11\frac{1}{2}$ lbs.

73332 (375-F) Engineers Wye Level; 18" telescope, internal focusing, magnifying 38x, objective aperture 1.69", minimum focus about 9 ft. Telescope level $8\frac{3}{8}$ " long, sensitivity of bubble 10-15 sec. per 2 mm. graduation. Weight: of Level 13 lbs. of Tripod $11\frac{1}{2}$ lbs.

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover

GURLEY ENGINEERS' DUMPY LEVEL



The Gurley Engineers' Dumpy Level is frequently preferred for use on construction work. There are fewer adjustments to the dumpy level than the wye level, and hence the dumpy level will retain adjustments when rough handling cannot be avoided.

Telescope: About 18 inches long. Sharp definition, flat field of view. Image erect. Internal focusing. Sunshade. Cross lines ruled on glass reticle.

Level Vial: Finely ground, sensitive and uniform in movement. Workable length of bubble under wide range of temperatures. Vial case adjustable vertically by opposing capstan nuts.

Centers: Long, tapered spindle and socket. Ground, lapped, and perfectly fitted. Free-running at all temperatures.

Improved Clamp and Tangent: Threads of tangent screw not exposed to dust at any normal position. Shoulder on stem prevents jamming threads. Take-up adjustment to tangent screw nut to compensate for wear. Tangent screw point thrusts against agate bearing for long wear and smooth motion.

Removable Leveling Screws: Leveling Screws are fitted to bushings which are clamped in the leveling head. The screw and bushing can be removed for cleaning without removing the bottom plate.

Tripod: (402) Standard Tripod, having fixed-length legs, 58 inches long. Standard 3½ inches—8 thread. Extension-leg Tripod (407) can be supplied in place of Fixed-length Tripod for additional charge.

Equipment: Hardwood carrying case with hooks and strap, containing sunshade, adjusting pins, screw driver, oil, center wrench and instruction book.

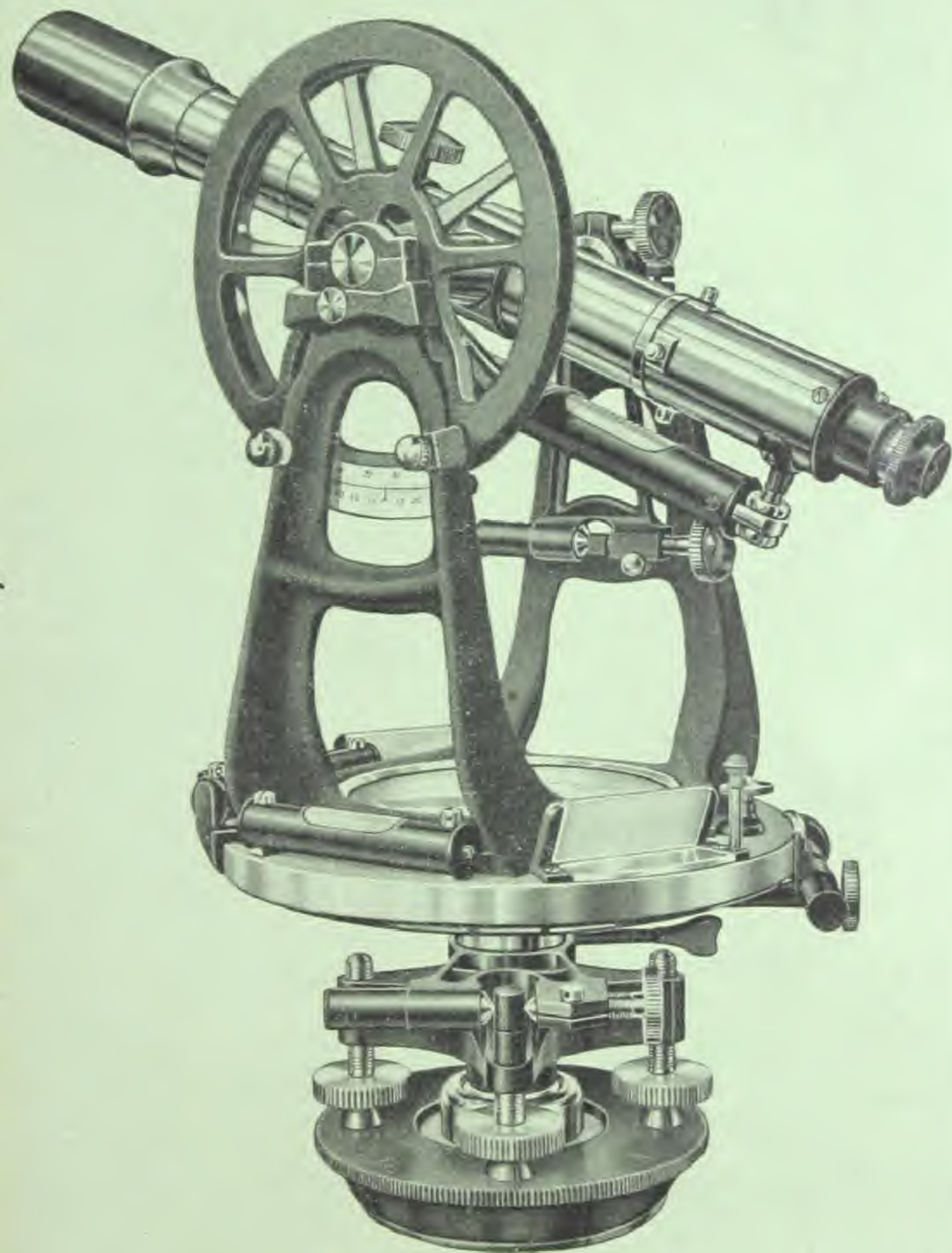
73341 (372-F) Engineers Dumpy Level, 18" telescope, internal focusing, magnifying 38x, objective aperture, 1.69", minimum focus about 9 ft. Telescope level 8½" long, sensitivity of bubble about 20 sec. per 2 mm graduation. Standard Tripod (402). **EACH** Weight 9 lbs., of Tripod 11½ lbs.

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

BUFF

TRANSITS AND LEVELS





T
years
and th
followi

1.
bridges
records
comple

2.
with gr

3.
Thrust
ards.

4.
position
patente
uncann

5.
the san

6.
permitt
is the B

7.
tion on
cuts the

8.
rate, sp

9.
and stre

10.
Adjustm



TRADE MARK

THE BUFF PRECISE TRANSIT

The "Buff" Precise Transit has behind it an unparalleled history of years of uninterrupted success, demonstrating the correctness of the design and the accuracies of construction. We offer for your consideration the following facts:

1. Buff holds the record for accuracy on triangulation work for bridges, tunnels and boundary line surveys. (See U. S. Supreme Court records in case of State of Texas, defendant, and State of Oklahoma, complainant.)

2. Buff is 100% non-corrosive; of bronze construction throughout, with graduations on solid silver.

3. Buff spool type axle bearings, technically known as "Double Thrust and Radial Axle Bearings," eliminate side play and loose standards.

4. Buff error-proof bearings, automatic type, hold telescope in any position without clamping and prevent bearing from wearing oval, a patented feature. These bearings will produce lines on the ground with uncanny accuracy of only $3/10,000$ " error, on a sight of 11,000 yards.

5. Buff graduations accurately cut diamond rulings—every line of the same width ensuring extreme accuracy to a fraction of a second.

6. The telescope has 40% oversize field for penetrating haze and permitting longer working days in winter. The latest type of Night Lenses is the **Buff** "X" System.

7. The entire instrument is of "stream-line" design preventing vibration on windy days, and the telescope, of small diameter barrel design, cuts the wind.

8. The large vernier openings permit brilliant illumination for accurate, speedy readings.

9. The centers are larger and stronger, 100% oversize for accuracy and strength. They are tested $\frac{1}{50,000}$ of an inch.

10. Extra large bubbles permit accurate setting, and avoid shadows. Adjustments hold permanently.

BUFF MATERIAL AND CONSTRUCTION

Every single part of a **Buff** Transit is made of the best materials obtainable, and of the most approved design known to the Scientific arts.

A **Buff** owner so rarely has to take his instrument apart that he seldom sees these bearings upon whose design and proper construction a smooth-operating and powerful instrument absolutely depends.

The center bearings are of bronze metals, the finest for the purpose, as the experience of over 80 years indicates. The three widely different compositions of phosphor-bronze, gun-metal bronze, and hard red bronze are the metals chosen, since each has for the next, respectively, the least coefficient of friction, of expansion and contraction. All of these three alloys can be compared in strength and hardness only to tempered steel.

There is no better metal for instrument-making than manganese bronze; it can be machined only by using powerful and accurate lathes. **Buff** uses this remarkable tough metal for its horizontal limb, vernier plates, standards, and outer members.

Telescopes, axles, inner centers are of hard bell metal. Not a soft or yellow brass casting is used on a **Buff**.

Slow-motion tangent screws, and levelling screws, throughout **Buff** instruments, have 25% greater wearing surface on the thread of the screw.

This again is one of those details that cost more through the shop production, but which is worth the extra cost.

Mathematical analysis has consistently strengthened **Buff** accuracy and smooth operation. External finish is a factor in sales argument, but when the finish is worn the important characteristics built into each **Buff** assert themselves—**Buff** supremacy is constantly revealed.

Buff style is synonymous with real beauty and the highest accuracy.

Buff instruments are safe to buy because the **Buff** character is built into each instrument. In the **Buff** shop every detail of manufacture is personally studied each day—so that for a generation to come each finished instrument may satisfy all requirements. The leading dealer in each city is pleased to sell **Buff's** on account of reputation and prestige accruing to him.



BUFF CENTERS

Next to accuracy of graduations it is important that the centers be true frustums of accurately circular cones and fitted to retain that theoretical accuracy. They should be constructed of the hardest possible metals.

Manganese bronze, containing 90% copper, is extensively applied in our instruments on account of its great tensile strength.

That our centers are accurately conical frustums, we are convinced by repeated and exhaustive tests, and moreover we are satisfied that they are so in every instrument, because of the methods we employ in turning them—upon “dead center lathes”—being precision lathes without spindles, and merely having a dead head-stock, with immovable center, and tail-stock center, between which the work is rotated.

That they are fitted to retain that accuracy—we take especial pride in stating—because:

1. The long tapers, possible in our instruments, terminating in the broad flanges, are both theoretically and practically the best.
2. These long tapers are most carefully and perfectly fitted by the expenditure of much expert labor. Upon the nicety of this fit depends the accuracy and longevity of the entire instrument.

For the Wye level centers—where the presence of iron is not prohibitory—an option has been recently offered, at a slight additional expense, of a hardened steel center in a socket of superior annealed charcoal iron.

It is unnecessary to say that these metals are the best possible for any center (when their presence is not objectionable) and this combination is universally adopted for all large astronomical instruments, and provides:

1. The minimum co-eff. of expansion of any two metals.
2. The minimum difference of the co-eff. of expansion of each.
3. The minimum co-eff. of friction.

BUFF TELESCOPES

One of the four important parts of the Engineer's Transit is the telescope. A Transit, no matter how perfect and well-constructed, will give constant annoyance if the telescope is of faulty design.

The telescope must shoot straight and be true for any distance. This requires the inner slide to be more true to line than the finest rifle, eliminating the tiniest errors by repeated tests. Accuracy to 1/50,000 of an inch is demanded.

The inner slide of a Buff telescope is a dense red bronze, and the outer slide, a hard-drawn brass alloy, a combination providing greatest anti-friction qualities for many years.

A Buff telescope gives a more satisfactory optical combination with 10% greater illumination. It has slightly greater power and a sharper defined field.

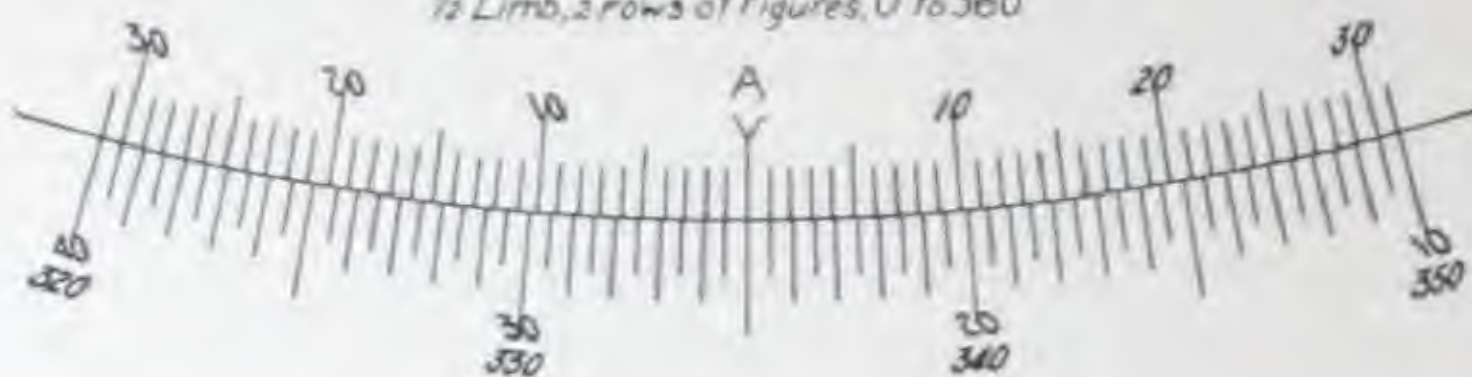
The most modern astronomical practice is Buff's guide. The Buff X System of lenses was designed to increase illumination—it is the best system of night lenses ever devised. Buff X Telescopes have such exceptional brilliancy that once the engineer has used them, he prefers them above all others.

“The line of collimation shall not change.” Buff Transits are equipped with new-style friction bearings on the axle of the telescope. These bearings provide absolute adjustment for the line of collimation. They require no adjustment and are not affected by temperature changes.

GRADUATIONS

Vernier to Single Minutes - Double Reading.

1/2" Limb, 2 rows of Figures 0° to 360°



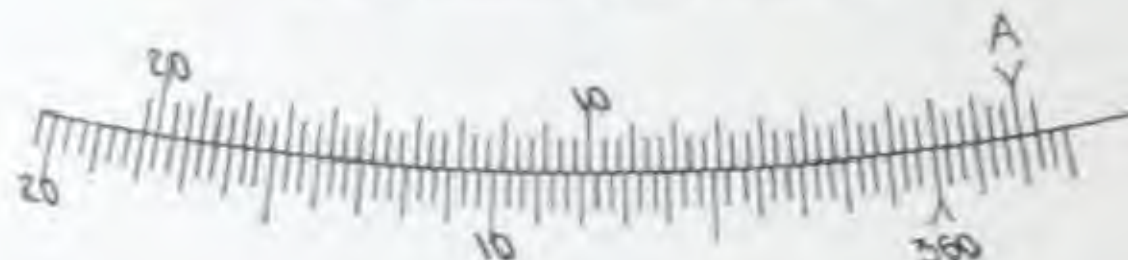
Vernier to 30 Seconds - Double Reading

1/2" Limb, 2 rows of Figures 0° to 360°



Vernier to 20 Seconds - Single Reading

1/2" Limb, 1 row of Figures 0° to 360°



This 20" vernier is 105% easier to read than 1/4" Limb. to 20 seconds

The **uniformity** of the **graduation line**—as placed upon our circles and verniers—we deem the special features of our graduations next to spacing. We claim—

1. The delicately poised mechanism, supporting the finely ground cutter, is of extraordinarily rigid construction.
2. The long experience dictating the proper combination of cutting angles ensures that the cutter is ground to the seven correct angles, which will cut the last line equally as wide as the first.

The **final fitting together** of the **graduation** and **verniers** is performed by ourselves, and is guaranteed for life.

All graduations are sterling silver with a dull, frosted finish of harmonious whiteness, facilitating rapid reading in the field. Solid silver graduations are ground and polished dead flat automatically. This is a feature found only in our transits.

The figuring on our graduation is particularly plain and legible, especially on mining instruments, and is always inclined in the direction it should be read.

BUFF TELESCOPE BEARINGS

Unexpected errors cause untold expense.

This fact is proved over and over again every day in the year. To **void errors** is a problem of every Civil Engineer.

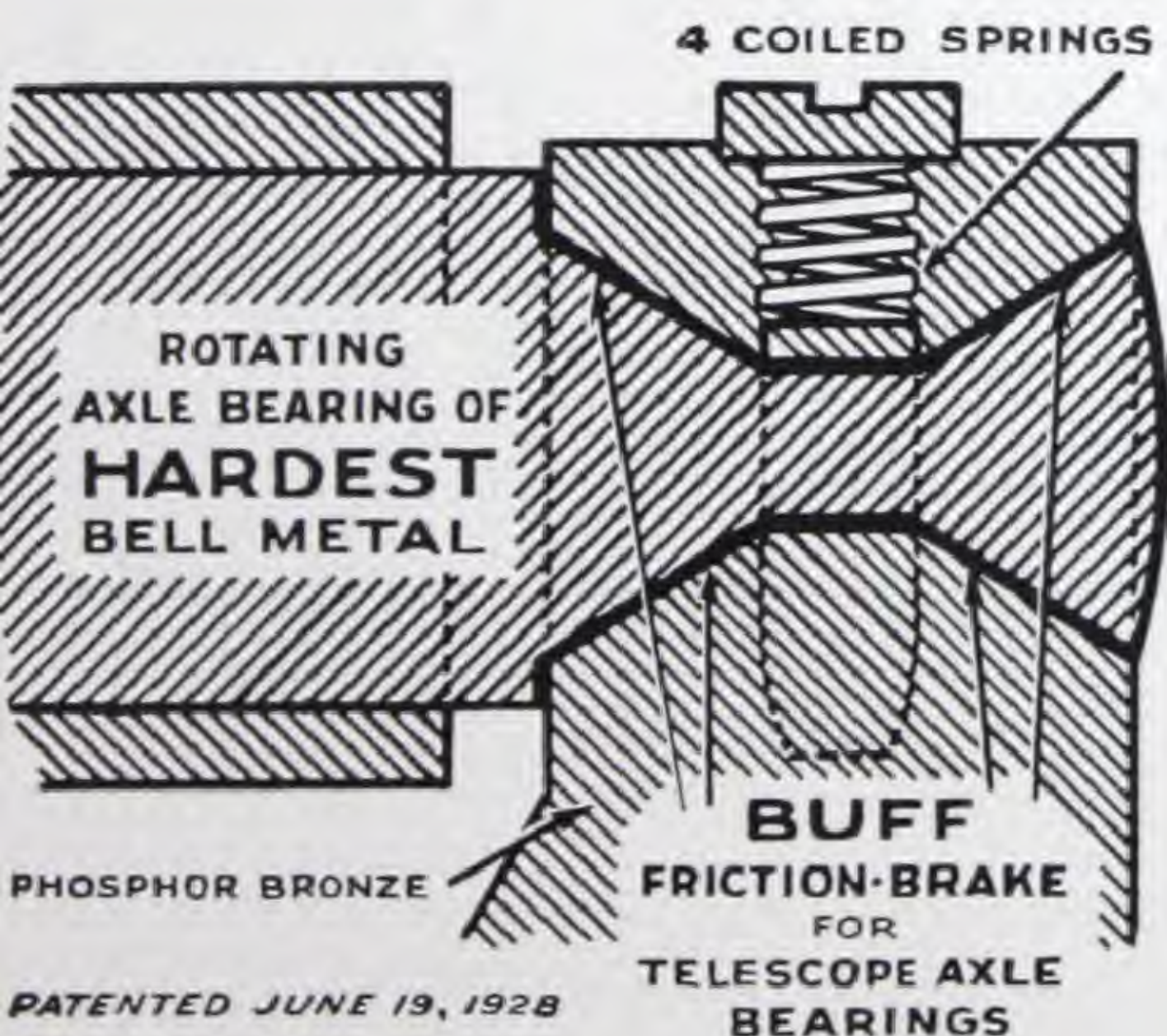
In 1928, **Buff** invented the **error-proof telescope bearing**, especially designed to prevent telescope errors. It is exclusive with **Buff**. There are no spring tongues to prevent wobbling—and no extra lenses as in internal focusing, which cut the light 11%. Every **Buff** telescope is absolutely in **perfect balance** and dust-tight. In addition, **Buff** supplies a soft friction, so when the telescope is sighted, it remains in that position. This is a great convenience and prevents many errors, but the important error-proof condition is the **uniform** friction on the bearings all around—at every point. It preserves this bearing beautifully round. It does not wear oval, and it **does prevent errors**. Highest type of precise triangulation is accomplished.

There is **no** substitute for **this perfect axle bearing**. It is the **one big improvement** which has been **applied to Transits during the past twenty-five years**. Remember:

1. **Buff** holds the record for accuracy on triangulation work for bridges, tunnels and boundary line surveys. (See U. S. Supreme Court records.)
2. **Buff** spool type axle bearings, technically known as "**Double Thrust and Radial Axle Bearings**," eliminate side play and loose standards.
3. **Buff** error-proof bearings, automotive type will produce lines on the ground with uncanny accuracy of only 3/10,000" error on a sight of 11,000 yards. "Your organization is

deserving of great praise and should be justly proud of its contribution to present day Engineering Science, for beyond a shadow of doubt, the **Buff** Transit has done most to advance our profession to its present point." E. S. B. 1932.

4. **Buff** provides double lock nut adjustment for the vertical sighting, ensuring repeated accuracy which is so necessary on modern steel buildings, and shafts and mining work.



SPIRIT LEVELS



LENGTH DIAMETER SENSITIVENESS

| | | |
|--------|----------|------------|
| 1½ in. | 4/10 in. | 60" to 80" |
| 2 in. | 5/10 in. | 30" to 60" |
| 2½ in. | 5/10 in. | 20" to 30" |
| 3 in. | 6/10 in. | 15" to 20" |
| 4 in. | 6/10 in. | 15" to 20" |
| 5 in. | 7/10 in. | 15" to 20" |
| 6 in. | 8/10 in. | 10" to 15" |

(See Price List for Prices on above)

Special sizes and lengths made to order at reasonable cost.

STADIA DIAPHRAGMS

8.71 square inch plus 6.72 inch equals 15.43

The above two large areas in square inches are the size of the Bearing Surfaces of "Buff" Transit centers.

Such a large size is most unusual.

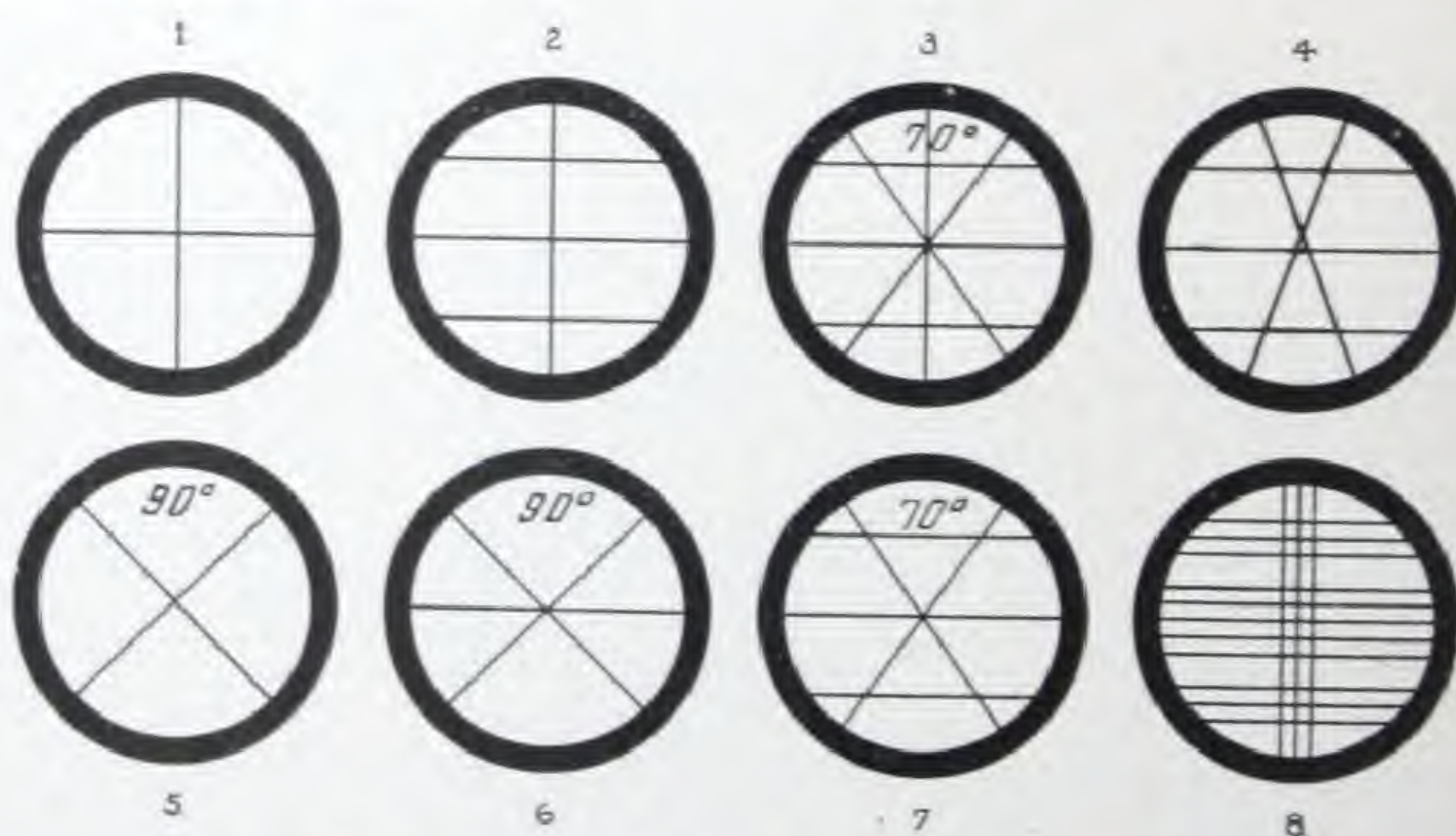
It is one of several reasons why "Buff" leads in Durability and Long Life.

Consider for a moment: A total of over 15 square inches for Buff's two center bearings! And this entire surface is fitted to an accuracy of 1/50000 part of an inch. And of the hardest phosphor bronze and gunmetal.

This accuracy enables most satisfactory stadia work.

Diagrams below show best arrangements for all cases of engineering and surveying practice.

Our custom is to set the Stadia wire at 1 to 100 to read correct from center of Transit without addition of constant F+C.



Nos. 1, 5 or 6 are furnished as equipment

| | EACH |
|--|------|
| 2. Stadia and cross-wires..... | |
| 3. Stadia and diagonal wires 70°..... | |
| 4. Stadia and diagonal 1/8" above intersection.. | |
| 7. Triangulation..... | |
| 8. Stellar observation..... | |

See Price List Inside Back Cover



AN EXPLANATION OF BUFF NUMBERS AND LETTERS

For many years our catalog has standardized on the following numbers and letters
Four numbers signifying sizes: No. 1, No. 2, No. 3, No. 4 (per table below).

No. 1 being the regular "City Size" transit. No. 4 the extra small "Baby Size"
for mining.

Specifications of Four Regular Sizes of the "Buff" Transit

| | SIZE NO. 1 | SIZE NO. 2 | SIZE NO. 3 | SIZE NO. 4 |
|------------------------------|---------------------|----------------------|---------------------|---------------------|
| Weight..... | 15 lbs. | 13 lbs. | 8 lbs. | 5 lbs. |
| Dia. of Grad..... | 6 $\frac{1}{4}$ in. | 5 $\frac{1}{2}$ in. | 4 $\frac{1}{2}$ in. | 4 in. |
| Length of Needle..... | 4 $\frac{1}{2}$ in. | 3 $\frac{3}{4}$ in. | 3 $\frac{1}{4}$ in. | 2 $\frac{1}{2}$ in. |
| Power Erect. Telescope..... | 26.5 dia. | 22.5 dia. | 18 dia. | 17 dia. |
| Power Invert. Telescope..... | 29 dia. | 25 dia. | 22 dia. | 20 dia. |
| Length of Telescope..... | 12 in. | 10 $\frac{3}{4}$ in. | 9 in. | 8 in. |
| Length Level Bubble..... | 6 in. | 5 $\frac{1}{2}$ in. | 4 in. | 4 in. |
| Dia. Telescope Aperture..... | 1 $\frac{1}{4}$ in. | 1 $\frac{1}{4}$ in. | 1 $\frac{1}{8}$ in. | 1 $\frac{1}{8}$ in. |

The following letters each signify a definite equipment:

- (1 A) **Transit.** Complete with full equipment, mahogany case, tripod, adjusted and tested for immediate service in the field, complete as shown page 344, including fixed stadia wires and general specifications, page 343.
- (1 B) Same as (1 A) but including vertical arc of 180 degrees and fixed stadia wires as shown page 344.
- (1 C) Same as (1 A) but including full vertical circle of 360 degrees and fixed stadia wires, as shown page 345.
- (1 D) Same as (1 A) but equipped with "U" standards, no compass, no vertical arc, as shown page 346.
- (1 E) With new "U" standards, 3 $\frac{3}{4}$ " compass needle, fixed stadia wires, as shown page 346.
- (1 EC) Same as (1 E) with full vertical circle.
- (1 F) Same as (1 C) and equipped with axle threaded for top and side telescope.
- (1 G) Same as (1 C) but vertical circle graduated on the edge.
- (1 H) Same as (1 C) but equipped with axle arranged to take detachable top and side telescope and vertical circle with edge graduation.

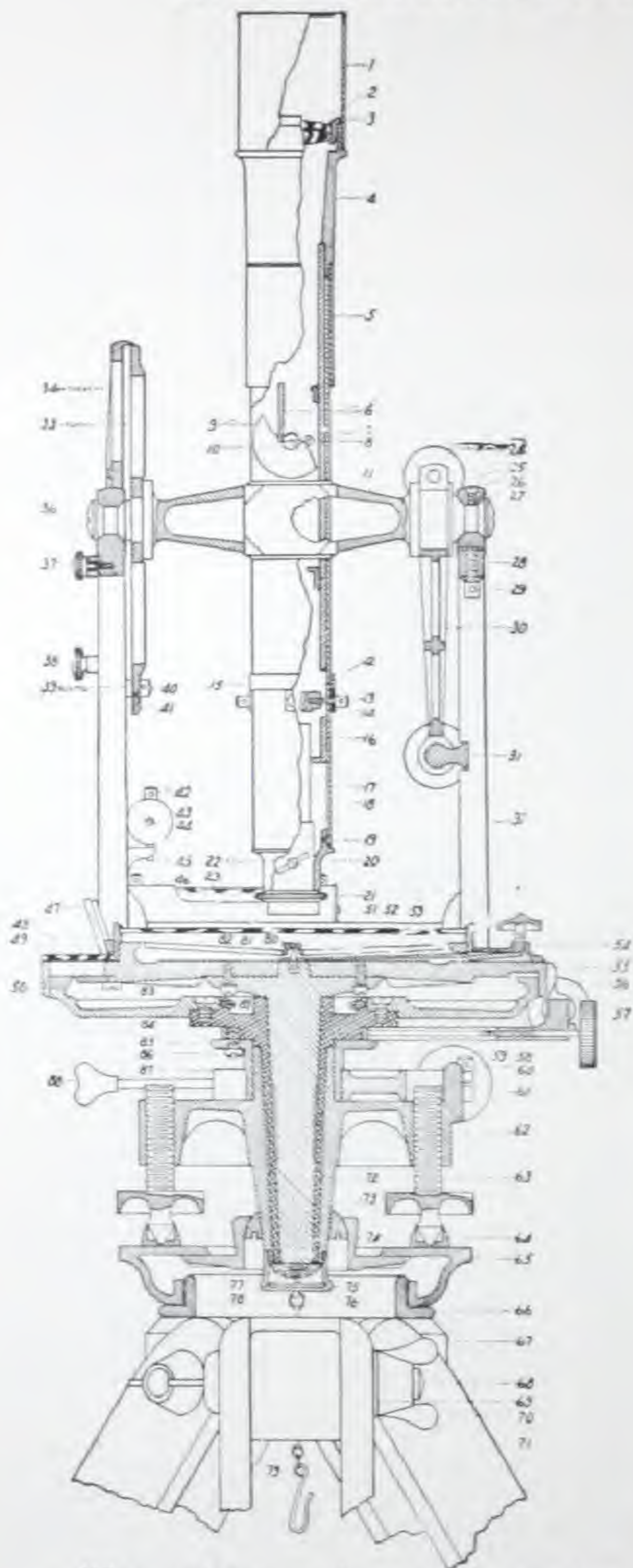
In general, any of the four sizes, Nos. 1, 2, 3, 4, and any letter type can be made up
We reserve the privilege of advising the engineer as regards the suitability of the particular instrument which he may select.

Example—When ordering or making inquiry, specify by number and letter.

NOTE—Numbers shown in (—) are manufacturers' numbers

Only an instrument which serves well is economical

CROSS SECTION OF BUFF TRANSIT



- 1—SUNSHADE
- 2—OBJECT GLASS
- 3—OBJECT CELL
- 4—OBJECT HEAD
- 5—PROTECTION CUFF
- 6—RACK
- 7—PINION
- 8—PINION SADDLE SCREWS
- 9—PINION HEAD
- 10—PINION HEAD SCREW
- 11—TELESCOPE AXLE
- 12—CROSS HAIR DIAPHRAGM
- 13—DIAPHRAGM SCREWS
- 14—DIAPHRAGM WASHER
- 15—REINFORCING RING
- 16—EYE-PIECE RING
- 17—EYE-PIECE LENS TUBE
- 18—TELESCOPE BODY TUBE
- 19—EYE-PIECE HEAD SCREW
- 20—EYE-PIECE CAP
- 22—EYE-PIECE SCREW
- 23—EYE-PIECE SLEEVE
- 24—TELESCOPE CLAMP SCREW
- 25—TELESCOPE CLAMP WASHER
- 26—STANDARD COVER SCREW
- 27—STANDARD COVER
- 28—AXLE ADJUSTING BLOCK
- 29—AXLE BLOCK ADJUSTING SCREW OR NUT
- 30—TELESCOPE TANGENT
- 31—TELESCOPE TANGENT SCREW
- 32—STANDARDS
- 33—NEEDLE LIFTER SCREW
- 34—VERTICAL GUARD
- 35—VERTICAL CIRCLE
- 36—VERNIER GUARD SCREW WASHER
- 37—VERTICAL GUARD SCREW
- 38—VERTICAL GUARD SCREW
- 39—VERTICAL VERNIER WASHER
- 40—VERTICAL VERNIER SCREW
- 41—VERTICAL VERNIER
- 42—STANDARD BUBBLE CAPSTAN SCREW
- 43—STANDARD BUBBLE
- 44—STANDARD BUBBLE TUBE
- 45—STANDARD BUBBLE SPLINE SCREW
- 46—PLATE BUBBLE
- 47—VERNIER SHADE GLASS AND HOLDER
- 48—VERNIER COVER GLASS
- 49—VERNIER GLASS KEEPER
- 50—HORIZONTAL VERNIER SCREW
- 51—COMPASS GLASS
- 52—COMPASS NEEDLE
- 53—NEEDLE LIFTER
- 54—LIFTER KNOB
- 55—PLATE TANGENT PIECE
- 56—PLATE TANGENT SCREW
- 57—PLATE CLAMP SCREW
- 58—PLATE CLAMP
- 59—HORIZONTAL CIRCLE
- 60—LOWER CLAMP TENSION SCREW
- 61—LOWER CLAMP TANGENT SCREW
- 62—SOCKET OR OUTER CENTER
- 63—LEVELLING SCREW
- 64—LEVELLING SCREW CUP
- 65—FOOT PLATE
- 66—PACKING RING
- 67—TRIPOD HEAD
- 68—TRIPOD BOLT
- 69—TRIPOD BOLT WASHER
- 70—TRIPOD BOLT NUT
- 71—TRIPOD LEG
- 72—INTERMEDIATE CENTER
- 73—BALL NUT
- 74—SHIFTING PIECE
- 75—CENTER CUP
- 76—CENTER CUP SPRING
- 77—CENTER NUT
- 78—TIE RING FOR PLUMB BOB CHAIN
- 79—PLUMB BOB HOOK AND CHAIN
- 85—CLAMP COLLAR
- 86—CLAMP COLLAR SCREW
- 87—LOWER CLAMP
- 88—LOWER CLAMP SCREW

When ordering repair parts, use numbers on this page. Also, be sure to give serial numbers engraved in compass box.

See Price List Inside Back Cover

SPECIFICATIONS: No. 1 BUFF TRANSIT

Telescope: 12" long—has erecting image, stable and firm in all positions, whether extended or not, without being clamped. To reverse at either end $1\frac{1}{8}$ ". Inner slide 7 inches long of phosphor-bronze fitted all around and lapped full length to a snug sliding fit in outer tubing $1\frac{1}{8}$ " narrow bore (low wind resistance) of seamless brass, having anti-friction characteristics. $1\frac{1}{4}$ inch objective, with power of 26.5 diameters. Lenses of purest Jena glass free from chromatic or spherical aberration, equally clear cut and brilliant over whole field. To focus at five feet. Center point on top center of telescope axle. Adjustment for vertical plane to be immovably anchored by strong stud bolt with two locknuts. Line of collimation correct for all distances. Standards of black Morocco finish with clamps and tangents. Bearings double "V" type spool-form, spring closure—dust-proof caps, with no lateral play. Shifting center with three-quarter inch adjustment. Spirit level, machine ground, 6 inches long, sensitive to 20 seconds. Vertical arc 5 inches on solid silver to minutes 0-90° each way.

Graduations: $6\frac{1}{4}$ inches in diameter with two opposite double reading verniers to minutes placed 30° to line of sight. Two rows of opposite inclined figures 0 to 360°. Divisions guaranteed accurate within $1\frac{1}{2}$ seconds of arc. Graduations on solid silver and protected by crystal plate glass covers. Ground glass shades for verniers to give maximum illumination.

Compass: Compass needle $4\frac{1}{2}$ inches long, of special Swedish magnet steel, resting on glass hard pivot, of special Buff form, and corrected for dip. Compass circle graduated to half degrees; figured from 0 to 90° each side of North and South and from 0 to 360° with variation ring. Graduation and variation plate and ring heavily silvered.

General: Improved upper and lower compression spring tangent clamps. Plate spirit levels machine ground, sensitive to 80 seconds. Long taper centers with broad flanges and of hardest bell metal and phosphor-bronze, substantially the equivalent of the hardest steel; no soft or yellow brass permitted. Bearings and graduation set true to $1/50000$ of an inch.

Improved type tripod, 12 thread, of one-piece white ash. Split legs with wing nuts and one-piece bell metal head. Three coats of hard shellac (and varnish), each rubbed and oil dressed. Average weight $8\frac{1}{2}$ lbs.

Plumb bob of hard metal with extremely low center of gravity and point of hardened tool steel. Solid mahogany instrument box provided with strap, brass lock and hooks; designed to permit the instrument to be fastened on a substantial sliding base of one-inch cherry. Contains plumb bob, wrenches, pocket reading glass, screw driver, sun-shade, adjusting pin, etc. Total weight of instrument 15 lbs.

73431 EXTRAS AND ATTACHMENTS, COMMON TO ALL SIZES

| Item h. | Jointed Reading Glass for reading Verniers..... | Price | Item p. | Reversion Level, for leveling with Telescope reversed..... | Price |
|---------|---|-------|---------|--|---------|
| Item i. | Beaman Stadia Arc for No. 1 B Transit..... | | Item q. | Fixed Stadia Wires, guaranteed 1 ft. in 100 ft..... | |
| Item j. | Graduation, Horizontal Circle, reading to 30 sec..... | | Item r. | Variation Plate and Ring..... | |
| Item k. | Graduation, Horizontal Circle, reading to 20 sec..... | | Item s. | Short Focus Lens Attachment, No. 1 Lens..... | |
| Item l. | Graduation, Horizontal Circle, reading to 10 sec..... | | Item t. | Dust-Cap to Leveling Screws... | |
| Item m. | Graduation, Vertical Circle, solid silver..... | | Item u. | Silk Waterproof Bag to cover Instrument..... | |
| Item n. | Reading Glasses to Horizontal Vernier..... | | Item v. | Superfine Watch Oil per bottle | |
| Item o. | Improved Gradiometer Attachment..... | | Item w. | Regular Tripod, complete..... | 10 lbs. |
| | | | Item x. | Regular Tripod, complete | 9 lbs. |
| | | | Item y. | Reflector Shade for Cross-wires | |
| | | | Item z. | Solar Attachment..... | |

CHARACTERISTICS

The transit, as illustrated, represents the highest perfection of the instrument maker's art. Accuracy, quality, finish and equitable price have obtained for it exclusive use on the largest works in progress at the present time.

The sensitiveness of the spirit level attachment is equivalent to that of many wye levels, and allows of high accuracy in leveling up to 200 feet sights.

See Price List Inside Back Cover

BUFF "PRECISE" TRANSIT



73441

6¼-IN. BUFF PRECISE TRANSIT, (1 B)

Specifications, page 343

All No. 1 size Buff instruments can be furnished with the X telescope.
The X telescope gives extraordinary clarity, shorter focus, and is especially adapted for mine and tunnel work.

73442 (1A) Buff Precise Transit, same as No. 73441 but without Vertical Arc.

NOTE—Numbers shown in (—) are manufacturer's numbers

See Price List Inside Back Cover

BUFF "PRECISE" TRANSIT



73451

6 $\frac{1}{4}$ -IN. BUFF PRECISE TRANSIT, (1 C)
(Design Patented)

Specifications, page 343

Also furnished with the X telescope. See page 337 for description of X telescope.

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover

~~~~~[ PAGE 345 ]~~~~~



## UNIVERSITY "PRECISE"



73461

### 6¼-IN. UNIVERSITY PRECISE, (1 EB)

This style is one of the finest designs, combining the U standards, maximum size of compass and low center of gravity. Weight 15 lbs.

**Specifications, page 343**

Also furnished with the X telescope. See page 337 for description of X telescope.

**73462** (1EC) Same as 73461—with full Vertical Circle and Guards

**73463** (1D) Same as No. 73461 but without Vertical Arc or Compass.

**NOTE**—Numbers shown in (—) are manufacturer's numbers

*See Price List Inside Back Cover*



## SPECIFICATIONS: No. 2-B BUFF TRANSIT

**Telescope:** Has erecting image and with friction bearings to hold firm in any position whether extended or not, without being clamped in place. To reverse at either end—10 $\frac{3}{4}$  inches long. Inner slide 5 $\frac{1}{2}$  inches long of phosphor bronze fitted all around and lapped full length to a snug sliding fit in outer tubing of hard rolled brass, having anti-friction characteristics. 1 $\frac{1}{4}$  inch objective, with power of 22.5 diameters. Lenses of purest Jena glass, free from chromatic or spherical aberration, equally clear cut and brilliant over whole field. To focus at five feet; center point on top of center of telescope axle. Adjustment for vertical plane to be immovably anchored by strong stud bolt with two lock nuts. Line of collimation correct for all distances. Bearings double conical spool form spring closure, dust-proof caps, with no lateral play. Shifting center with  $\frac{3}{4}$  inch adjustment. Standards black finished with clamps and tangents. Spirit level, medium ground, 5 $\frac{1}{2}$  inches long, sensitive to 24 seconds.

**Graduations:** 5 $\frac{1}{2}$  inches in diameter with two opposite double reading verniers to minutes placed 30° to line of sight. Two rows of opposite inclined figures 0 to 360°. Divisions guaranteed accurate within 1 $\frac{1}{2}$  seconds of arc. Graduations on solid silver and protected by crystal plate glass covers. Ground glass shade for verniers to give maximum illumination fixed at angle of 60°. Vertical arc 5 inch diameter.

**Compass:** Compass needle 3 $\frac{3}{4}$  inches long of special Swedish magnet steel, resting on hardened steel pivot, of special **Buff** form, and corrected for dip. Compass circle graduated to half degrees; figured from 0 to 90° each side of North and South and from 0 to 360°. Graduation and vernier face heavily silvered, and water-tight.

**General:** Improved upper and lower compression spring tangent clamps. Plate spirit levels machine ground; sensitive to 30 seconds. Long taper centers with broad flanges and of hardest bell metal and phosphor bronze, substantially the equivalent of the hardest and toughest steel; no soft or yellow brass used. Bearings and clearances true to 1/50000th of an inch. Weight of transit—13 lbs. Tripod, 8 lbs.

Improved type tripod of one-piece white ash. Split legs with wing nuts and one-piece bell metal head. Three coats of hard shellac, each rubbed and oil dressed, and fine coat of Spar varnish.

Plumb bob of hard bronze metal with extremely low center of gravity and point of hardened steel. Mahogany instrument box provided with strap, brass lock and hooks; designed to permit the instrument to be attached to a sliding base-board of 1" cherry; contains plumb-bob, pocket reading glass, wrenches, screw driver, sunshade and adjusting pins.

| 3471    | EXTRAS TO No. 2 SIZE OF TRANSIT                                                                              | PRICE |
|---------|--------------------------------------------------------------------------------------------------------------|-------|
| tem h.  | Jointed Reading Glass for reading Verniers.....                                                              |       |
| tem j.  | Graduation, Horizontal Circle, reading to 30 seconds.....                                                    |       |
| tem k.  | Graduation, Horizontal Circle, reading to 20 seconds.....                                                    |       |
| tem l.  | Graduation, Horizontal Circle, reading to 10 seconds.....                                                    |       |
| tem m.  | Graduation, Vertical Circle, on solid silver.....                                                            |       |
| tem n.  | Reading Glasses to Horizontal Verniers (adjustable).....                                                     |       |
| tem o.  | Gradienter Attachment.....                                                                                   |       |
| tem p.  | Reversion Level, for leveling with Telescope reversed.....                                                   |       |
| tem q.  | Stadia Wires, fixed.....                                                                                     |       |
| tem r.  | Variation Plate and Ring.....                                                                                |       |
| tem s.  | Short Focus Lens Attachment, 2 sets in combination.....                                                      |       |
| tem t.  | Dust Caps to Leveling Screws.....                                                                            |       |
| tem u.  | Silk waterproof bag to protect Instruments from rain and dust.....                                           |       |
| tem v.  | Superfine Watch Oil, to lubricate centers.....                                                               |       |
| tem w.  | Extra Extension-Leg Tripod.....                                                                              |       |
| tem x.  | Extra Regular-Leg Tripod.....                                                                                |       |
| tem y.  | Reflector Shade for Cross-wires.....                                                                         |       |
| tem z.  | Saegmuler Solar Attachment.....                                                                              |       |
| tem aa. | Prism, attached to Eye-piece.....                                                                            |       |
| tem bb. | Prism combination pivoted, with Colored Glasses.....                                                         |       |
| tem cc. | Edge graduation for Vertical Circle, 5 in. diameter.....                                                     |       |
| tem dd. | Trivet, for setting Instrument on Beams, etc., in Longitudinal passages, 2-inch, 3-inch and 6-inch Legs..... |       |
| tem ee. | Detachable side Telescope with Counterpoise.....                                                             |       |
| tem gg. | Leather Cover, at cost to us.....                                                                            |       |
| tem hh. | Leather Cover, with Straps.....                                                                              |       |
| tem ii. | Plummet-lamp, improved form.....                                                                             |       |
| tem jj. | Bracket—for use in mines—instead of Tripod—heavy casting complete and ready for Instrument.....              |       |
| tem kk. | Auxiliary Bubble to Vertical Circle.....                                                                     |       |
| tem ll. | Lateral Adjuster—complete, for use while transferring lines underground.....                                 |       |
|         | For other Extras not listed, send description and sketch.                                                    |       |

See Price List Inside Back Cover



## BUFF "PRECISE" TRANSIT



73481

**73481 5½-IN. BUFF PRECISE TRANSIT, (2 B)**

**Light Mountain Size. Weight 12 lbs.**

Decreased in size and weight, but identical in design to the regular No. 1 B.

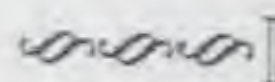
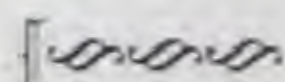
**73482 (2 C)—With Full Vertical Circle and Guard**

**Specifications, page 347**

All No. 2 Buff Transits can be furnished, at a small additional cost, with a telescope focusing to 3½ feet from center of axis.

**NOTE**—Numbers shown in (—) are manufacturer's numbers

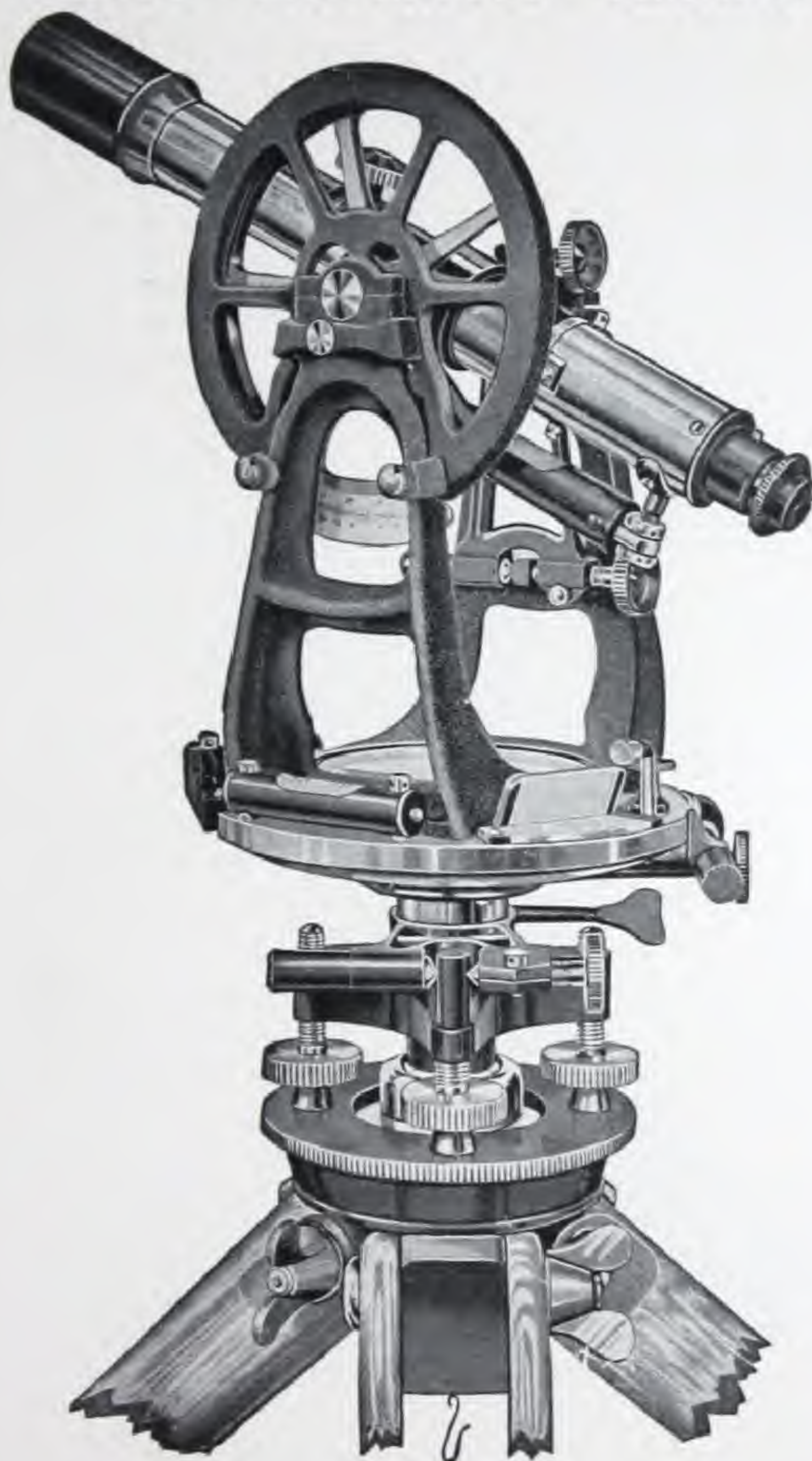
*See Price List Inside Back Cover*


 PAGE 348
 





BUFF "UNIVERSITY" TRANSIT



73491

5½-INCH LIGHT MOUNTAIN UNIVERSITY, (2 EC)

73491 (2 EC) This style combines the "U" standards and a maximum size of compass needle, 3¼ inches long. With full vertical circle and guard. Extra light weight.....

73492 (2 EB) Same as 73491 with vertical arc.....

Specifications see page 347

NOTE—Numbers shown in (—) are manufacturer's numbers

*See Price List Inside Back Cover*





## SPECIFICATIONS: No. 3 TRANSIT

**Telescope:** With erecting image and vertical arc, four inches in diameter, stable and firm in any position whether extended or not, without being clamped in place. To reverse at either end—9 inches long. Inner slide  $5\frac{1}{2}$  inches long of phosphor bronze fitted all around and lapped full length to a snug sliding fit in outer tubing of hard-rolled brass, having anti-friction characteristics.  $1\frac{1}{8}$ " objective, with power of 18 diameters. Lenses of purest Jena glass, free from chromatic or spherical aberration, equally clear cut and brilliant over whole field. To focus at five feet; center point on top center of telescope axle. Adjustment for vertical plane to be immovably anchored by strong stud bolt with two lock nuts. Line of collimation correct for all distances. Bearings double conical spool form spring closure, dust-proof caps, with no lateral play. Shifting center with  $\frac{5}{16}$ -inch adjustment. Standards leather finished with clamps and tangents. Spirit level 4 inches long, sensitive to 20 seconds.

**Graduations:**  $4\frac{1}{2}$  inches in diameter with two opposite double reading verniers to minutes placed  $30^\circ$  to line of sight. Two rows of opposite inclined figures  $0^\circ$  to  $360^\circ$ . Divisions guaranteed to be accurate within  $1\frac{1}{2}$  seconds of arc. Graduations of solid silver and protected by crystal plate glass covers. Ground glass shade for verniers to give maximum illumination and fixed permanent at  $60^\circ$  angle.

**Compass:** Compass needle  $3\frac{1}{4}$  inches long of Swedish magnet steel, resting on hardened steel pivot, of special Buff form, and corrected for dip. Compass circle graduated to half degrees; figured from  $0^\circ$  to  $90^\circ$ , each side of North and South and from  $0^\circ$  to  $360^\circ$ . Graduation and vernier face heavily silvered.

**General:** Improved upper and lower compression spring tangent clamps. Plate spirit levels machine ground; sensitive to 90 seconds. Long taper centers with broad flanges and of hardest bell metal and phosphor bronze, substantially the equivalent of the hardest and toughest steel; no soft or yellow brass whatever used. Bearings and clearances true to  $1/50000$  of an inch. Weight of transit—8 lbs.

Improved type tripod of one-piece white ash. Split legs with wing nuts and one-piece bell metal head. Three coats of hard shellac, each rubbed and oil dressed, and top coat of spar varnish.

Plumb bob of hardest bell metal with extremely low center of gravity and point of hardened tool steel. Mahogany instrument box provided with strap, brass lock and hooks; designed to permit the instrument to be attached to sliding base-board of 1" cherry. Contains plumb bob, pocket reading glass, wrenches, screw driver, sun-shade and adjusting pins.

**73501****EXTRAS TO No. 3 AND No. 4 SIZE TRANSITS****PRICE**

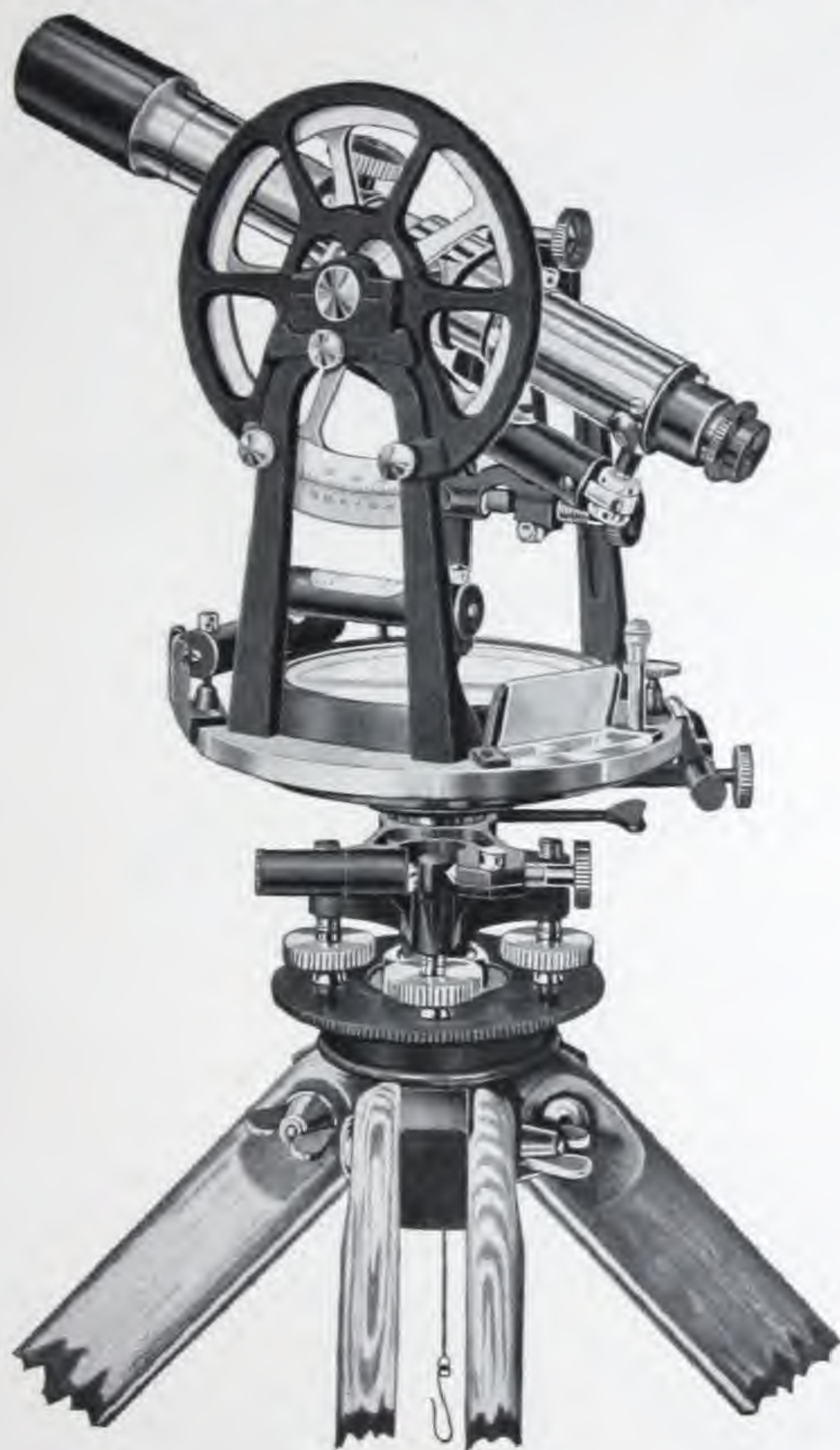
|         |                                                                             |
|---------|-----------------------------------------------------------------------------|
| Item 3  | Graduation, horizontal circle, solid silver, reading to 30 seconds. . . . . |
| Item 4  | Edge graduation to vertical circle, one double reading vernier . . . . .    |
| Item 5  | Dust-proof cover of crystal plate glass completing enclosure . . . . .      |
| Item 6  | Gradiometer attachment, improved, guaranteed accurate . . . . .             |
| Item 7  | Stadia wires, fixed, 1 ft. to 100 ft. . . . .                               |
| Item 8  | Two reading glasses to Hor. circle. . . . .                                 |
| Item 9  | Prism, attachable to eye-piece, No. 1. . . . .                              |
| Item 10 | Prism, attachable to eye-piece, pivoted combination, No. 2. . . . .         |
| Item 11 | Leather cover over case, sole leather, with carrying straps. . . . .        |
| Item 12 | Canvas cover with leather ends for extension tripod. . . . .                |
| Item 13 | Detachable top and side-telescope with counterpoise. . . . .                |
| Item 14 | Silk bag to cover transit. . . . .                                          |
| Item 15 | Striding-level to complete transit. . . . .                                 |
| Item 16 | Reflector shade for illumination cross-wires. . . . .                       |
| Item 17 | Short Focus lens attachment, No. 1, No. 2, complete set. . . . .            |
| Item 18 | Trivet—for setting on beams. . . . .                                        |
| Item 19 | Auxiliary Bubble to control zero of vertical vernier . . . . .              |

*See Price List Inside Back Cover*





**BUFF "PRECISE" TRANSIT**



73511

**4½-INCH ROCKY MOUNTAIN FAVORITE (3 C)**

Weight, 8 lbs. Specifications, see page 350

Superior graduations guaranteed. Unexcelled telescopes. Four and a half inch diameter at edge of graduation. Ample size leveling screws to ensure ease in operating in cold weather. Extra rigid tripod to secure stability in a stiff breeze.

"Buff" graduations are accurate to 1/50000 part of an inch.

NOTE—Numbers shown in (—) are manufacturers' numbers

*See Price List Inside Back Cover*



## BUFF "UNIVERSITY" TRANSIT



73521

**4½-INCH UNIVERSITY MODEL (3 EB)**

Weight, 8 lbs. Specifications, see page 350

Designed for conservation engineers and fine mining and mountain surveying where extreme conditions require extra strength and rigidity to withstand a strong breeze. Recommended for use with solar attachment.

**NOTE**—Numbers shown in (—) are manufacturers' numbers

*See Price List Inside Back Cover*



## SPECIFICATIONS FOR TRIANGULATION THEODOLITES

NUMBERS 80-81-82-83

**Telescope:** 13¼ inches long. 1⅜-inch objective with a power of 29 diameters. Improved eye-piece, reversible in standards and in bearings, inverting image, stable and firm in any position. Inner slide of phosphor bronze fitted all around and lapped full length to a snug sliding fit in outer tubing of hard-rolled brass, having anti-friction characteristics. Lenses of purest Jena glass free from chromatic or spherical aberration—clear cut and sharply defined image over entire field. Line of collimation correct for all distances. Shifting center with one inch adjustment. To focus at six feet-center point on top of center of telescope axle. Adjustment for vertical plane to be immovably anchored by strong bolt with two lock nuts. Four levelling screws of Manganese bronze. Spirit level machine ground, sensitive to 30 seconds. Finish bright throughout.

**Graduation:** 6¼ to 10 inches in diameter with two double opposite verniers reading to 30 seconds placed 30° to line of sight. Graduations on solid silver and covered by crystal plate glass covers. Two rows of figures 0-360° clockwise. Accuracy to 1/56000th of an inch.

**General:** Improved upper and lower spring tangent clamps. Plate spirit levels machine ground; sensitive to seconds. Long taper centers with broad flanges and of hardest bell metal and phosphor bronze, substantially the equivalent of the hardest and toughest steel; no soft or yellow brass used. Bearings and clearances true to 1/50000th of an inch. Weight of theodolite—19 lbs.

**Tripod:** Improved type heavy tripod of one-piece white ash. Split legs with wing nuts and one-piece bell metal head. Three coats of hard shellac, each rubbed and oil-dressed. Weight of tripod—12 lbs.

**Accessories:** Plumb-bob of hardest bell metal with extremely low center of gravity and point of hardened steel. Mahogany instrument box provided with strap, brass lock and hooks; designed to permit the instrument to be boxed properly. Contains plumb-bob, pocket reading glass, wrenches, screw driver, sunshade and adjusting pins.

The BASE PRICE includes an instrument per "SPECIFICATIONS" above

### EXTRAS (Common to all sizes)

| 73531    | Inverting Image Telescopes are furnished unless Erecting is specified | PRICE |
|----------|-----------------------------------------------------------------------|-------|
| Item 3.  | Horizontal Graduation reading to 20"—2 rows of figures, 0-360 back..  |       |
| Item 4.  | Horizontal Graduation reading to 10"—1 row of figures, 0-360.....     |       |
| Item 5.  | Horizontal Graduation reading to 5".....                              |       |
| Item 6.  | Horizontal Reading Glasses and Shades.....                            |       |
| Item 7.  | Vertical Reading Glasses and Shades.....                              |       |
| Item 8.  | Vertical Arc, reading to minutes.....                                 |       |
| Item 9.  | Vertical Arc, reading to 30".....                                     |       |
| Item 10. | Vertical Circle reading to minutes, or to 30".....                    |       |
| Item 11. | Vertical Circle with Double Opposite Verniers.....                    |       |
| Item 12. | Latitude Level to Vertical Circle.....                                |       |
| Item 13. | Three Leveling Screw Arrangement, extra.....                          |       |
| Item 14. | Striding Level, 5-inch on trunnions.....                              |       |
| Item 15. | 6½-inch Spirit Level and Reversible Clamp with Slow Motion Screw..    |       |
| Item 16. | Striding Level.....                                                   |       |

**NOTE—A special Theodolite order is nearly similar to a new Bridge job. Plans and specifications need to be laid out—special telescope made up to drawings—the horizontal graduation set up and calibrated individually and a lot of expert work, almost like an original lay-out, is needed. Naturally, this takes time and this, therefore, is a word to explain that ten days or twenty days extra time is sometimes almost unavoidable.**

*See Price List Inside Back Cover*

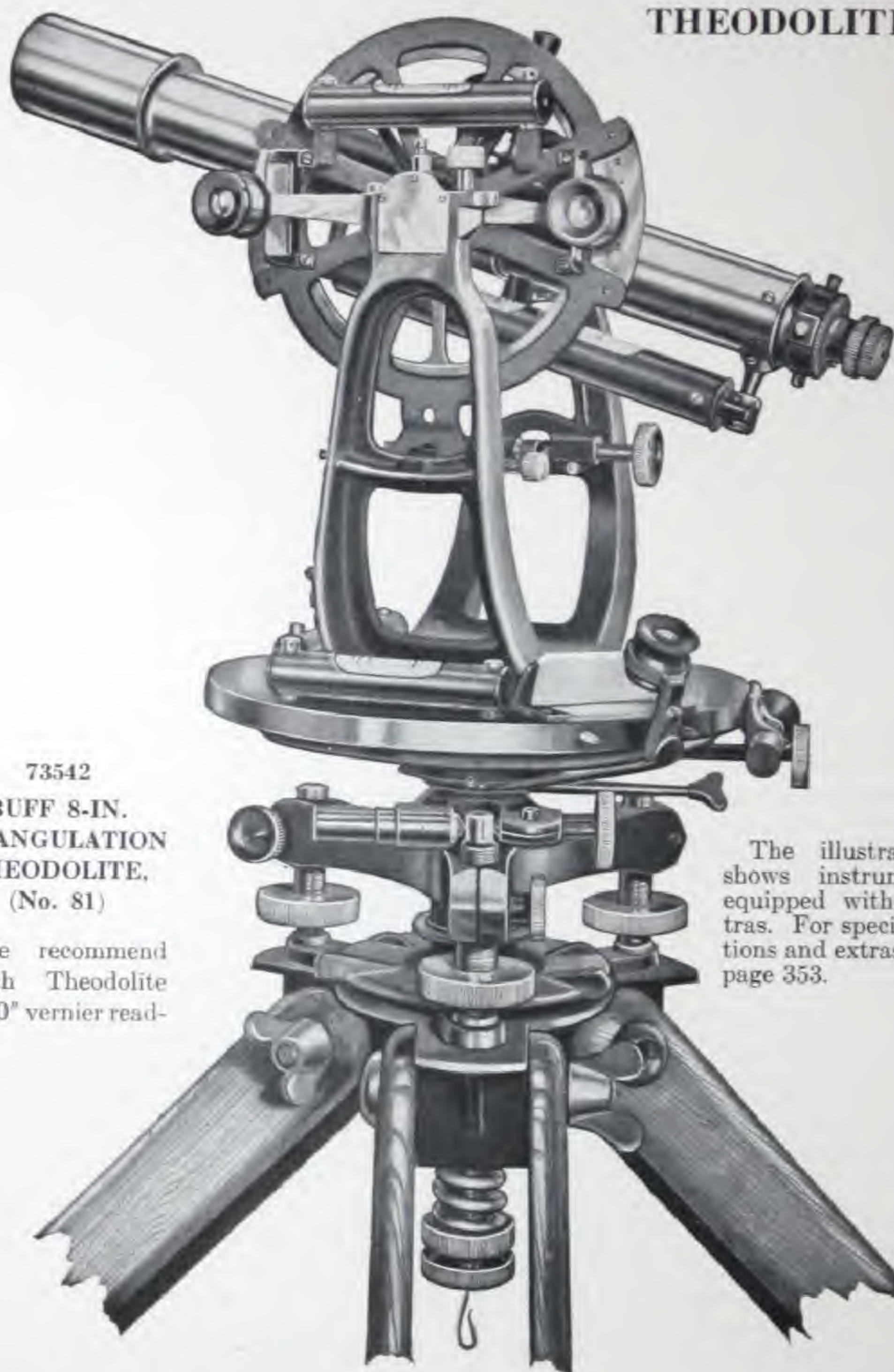




B. K. ELLIOTT COMPANY



## THEODOLITE



73542  
BUFF 8-IN.  
TRIANGULATION  
THEODOLITE,  
(No. 81)

We recommend  
8-inch Theodolite  
for 10" vernier read-  
ing.

The illustration  
shows instrument  
equipped with ex-  
tras. For specifica-  
tions and extras see  
page 353.

|            |                                                                                 | BASE<br>PRICE |
|------------|---------------------------------------------------------------------------------|---------------|
| 73541 (80) | Triangulation Theodolite: 6 $\frac{1}{4}$ inch Horizontal Circle reading to 30" |               |
| 73542 (81) | Triangulation Theodolite: 8-inch Horizontal Circle reading to 30"               |               |
| 73543 (82) | Triangulation Theodolite: 8-inch Horizontal Circle reading to 30"               |               |
| 73544 (83) | Triangulation Theodolite: 10-inch Horizontal Circle reading to 30"              |               |

NOTE—Numbers shown in (—) are manufacturers' numbers

See Price List Inside Back Cover





## BUFF ENGINEERS' 18-INCH WYE LEVEL

(Power, 36 Diameters)

### SPECIFICATIONS FOR BUFF 18-INCH WYE LEVEL

**Telescope:** 18 inches long,  $1\frac{3}{8}$ -inch objective, erecting image, line of collimation correct for all distances. Power 36 diameters. Lenses of purest Jena Glass; free from chromatic or spherical aberration; unusual illumination, exceptionally clear cut and sharp definition of image over entire field. Protection to object slide. Entire telescope and level tube are finished black. Unless otherwise ordered the sensitiveness of spirit level will be 20 seconds to one division  $\frac{1}{10}$  inch. Instrument adjusted to the finest possible accuracy with sunshade in position and focussed on mean distance.

**General:** Phosphor-bronze contact points for the bell-metal telescope collars. Bell-metal center in socket of phosphor-bronze. (Note—For the more precise users where a specially sensitive spirit level is specified the hardened steel and annealed iron center is recommended theoretically as well as practically, and gives the ideal bearing.) Four levelling screws of hard bronze. Complete in mahogany case with strap and hooks, sunshade, wrench, screw driver, adjusting pin, etc. Weight of complete instrument  $10\frac{3}{4}$  lbs. Tripod, 8 lbs.

The best metals for surveying instruments are those which have coefficients of expansion equal to that of glass. This is important in order to retain the adjustments despite temperature changes.

|                                                 |             |
|-------------------------------------------------|-------------|
| Co-efficient of glass per foot, for 1° Fah..... | .00005 inch |
| Co-efficient of steel per foot, for 1° Fah..... | .00007 inch |
| Co-efficient of brass per foot, for 1° Fah..... | .00012 inch |
| Co-efficient of aluminum.....                   | .00014 inch |

Buff Levels have the very finest Centers possible. Put together with intelligence and knowledge covering many years. The accuracy of work in the field is unfailingly accurate.

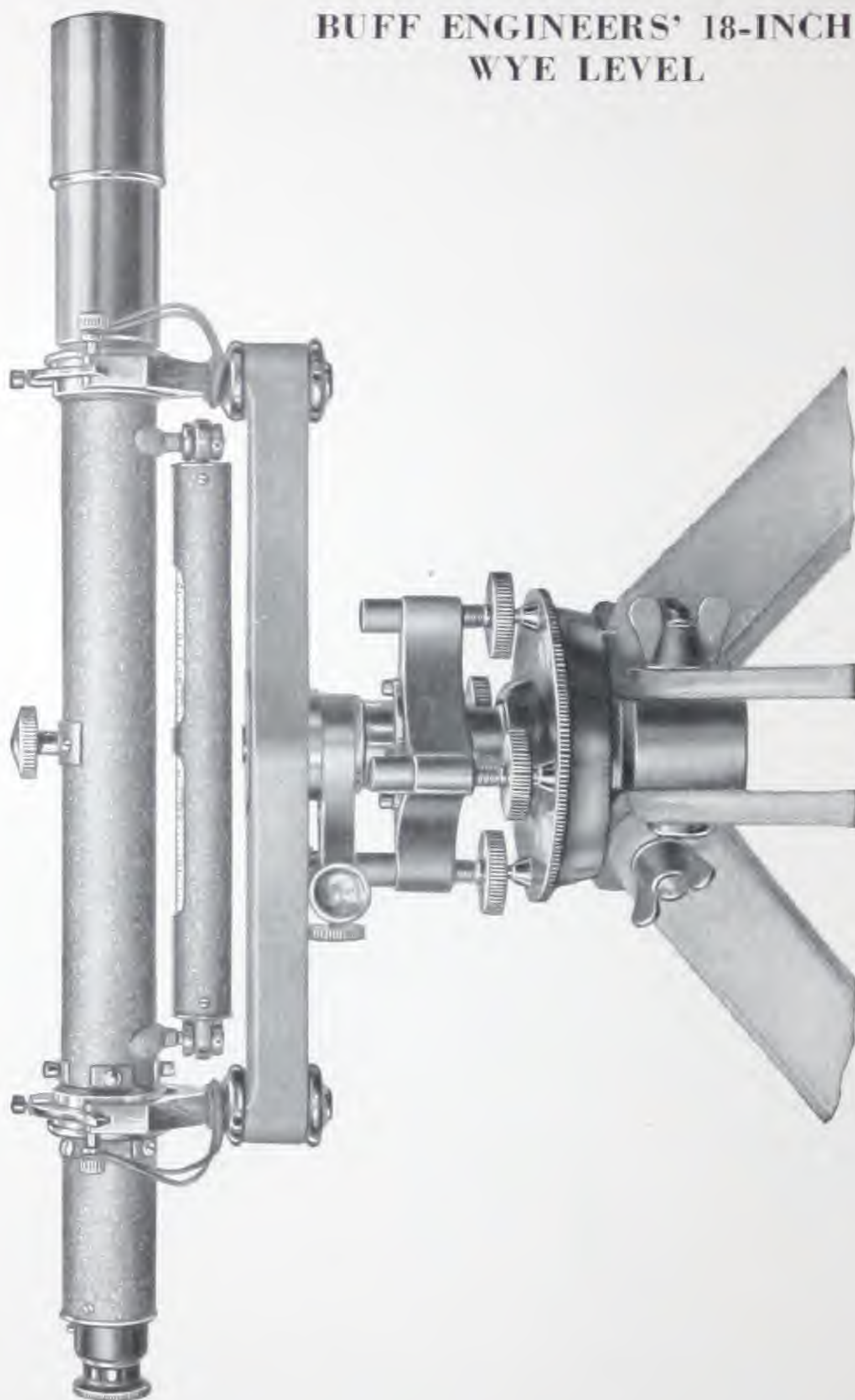
NOTE—For the most precise uses, where a specially sensitive spirit level is specified, the steel and iron center is strongly recommended as securing the most nearly perfect center theoretically as well as practically, and giving the ideal bearing.

Dust Caps for levelling screws are a real necessity. Buff supplies them on all instruments.

| 73551  | EXTRAS                                                                                          | PRICE |
|--------|-------------------------------------------------------------------------------------------------|-------|
| Item 1 | Hardened steel center in phosphor-bronze socket.....                                            |       |
| Item 2 | Hardened steel center in annealed iron.....                                                     |       |
| Item 3 | Fixed stadia wires.....                                                                         |       |
| Item 4 | Extra sunshade having aperture for use when the light is too bright for accurate work.....      |       |
| Item 5 | Metal mirror, to read bubble without moving from eye-piece, silver-plated arms and jointed..... |       |
| Item 6 | Waterproof bag of silk to protect the level from rain.....                                      |       |
| Item 7 | Bottle of superfine watch oil to lubricate the centers.....                                     |       |



## BUFF ENGINEERS' 18-INCH WYE LEVEL



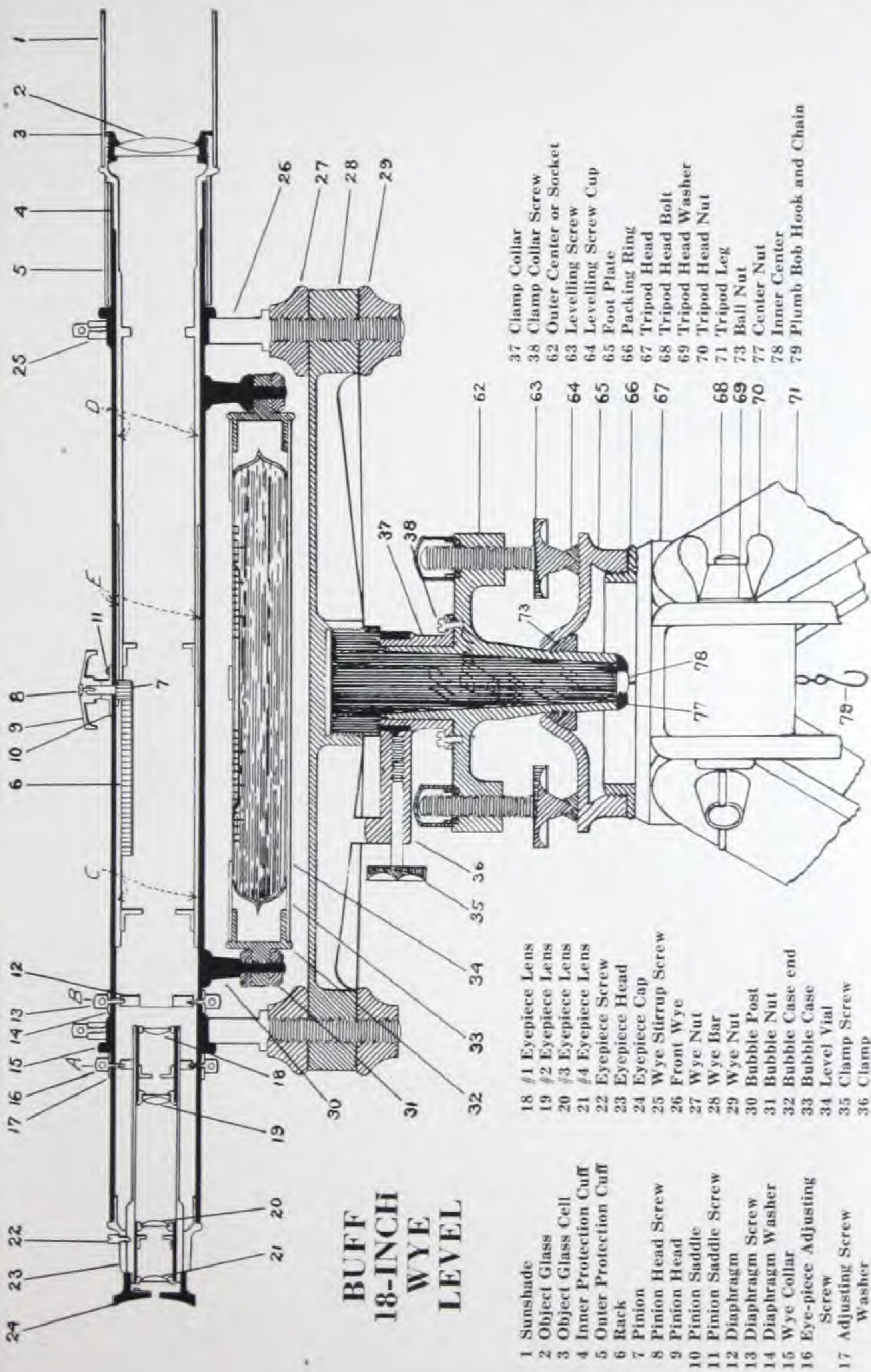
73561

Power, with erecting eye-piece, 36 diameters. Weight, 10 lbs. Internal Focusing Telescope is optional.  
Can be supplied with 20-inch or 22-inch Telescope, Extra.

Specifications see Page 355

*See Price List Inside Back Cover*





**BUFF  
18-INCH  
WYE  
LEVEL**

- 1 Sunshade
- 2 Object Glass
- 3 Object Glass Cell
- 4 Inner Protection Cuff
- 5 Outer Protection Cuff
- 6 Rack
- 7 Pinion
- 8 Pinion Head Screw
- 9 Pinion Head
- 10 Pinion Saddle
- 11 Pinion Saddle Screw
- 12 Diaphragm
- 13 Diaphragm Screw
- 14 Diaphragm Washer
- 15 Wye Collar
- 16 Eye-piece Adjusting Screw
- 17 Adjusting Screw Washer

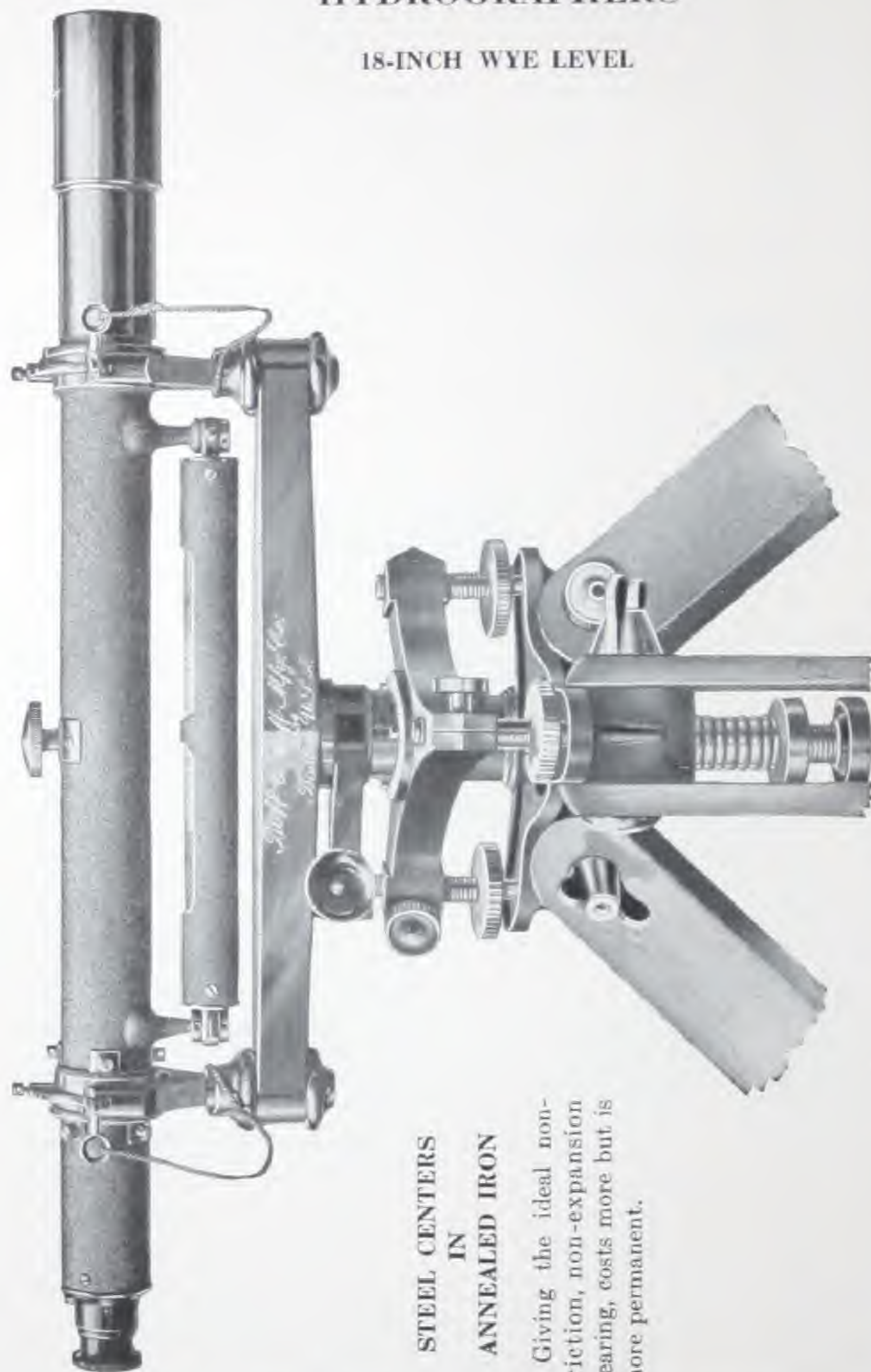
- 18 #1 Eyepiece Lens
- 19 #2 Eyepiece Lens
- 20 #3 Eyepiece Lens
- 21 #4 Eyepiece Lens
- 22 Eyepiece Head
- 23 Eyepiece Head
- 24 Eyepiece Cap
- 25 Wye Stirrup Screw
- 26 Front Wye
- 27 Wye Nut
- 28 Wye Bar
- 29 Wye Nut
- 30 Bubble Post
- 31 Bubble Nut
- 32 Bubble Case end
- 33 Bubble Case
- 34 Level Vial
- 35 Clamp Screw
- 36 Clamp

- 37 Clamp Collar
- 38 Clamp Collar Screw
- 62 Outer Center or Socket
- 63 Levelling Screw
- 64 Levelling Screw Cup
- 65 Foot Plate
- 66 Packing Ring
- 67 Tripod Head
- 68 Tripod Head Bolt
- 69 Tripod Head Washer
- 70 Tripod Head Nut
- 71 Tripod Leg
- 73 Ball Nut
- 77 Center Nut
- 78 Inner Center
- 79 Plumb Bob Hook and Chain



## BUFF (No. 18H) HYDROGRAPHERS

18-INCH WYE LEVEL



STEEL CENTERS  
IN  
ANNEALED IRON

Giving the ideal non-friction, non-expansion bearing, costs more but is more permanent.

73581 Weight, 12 lbs.

Recommended equipped with mirror for making simultaneous reading on levelling rod and bubble.  
The three levelling screws provide a wider base with smoother operation and thereby holds adjustments better.

NOTE—Numbers shown in (—) are manufacturer's numbers  
See Price List Inside Back Cover





## BUFF ENGINEERS' DUMPY LEVEL

Equally accurate work can be done with a dumpy level of our improved make as with the regular Wye level, since the same sensitiveness of level bubble is put into this instrument and the same objective of the same focus and diameter, giving the same power of 32 diameters.

Particularly on work of a roughing-out nature, where liability to slight knocks is present that would seriously injure a Wye level, the possibilities of a compact dumpy level are at its best.

An engineer certainly can perform as close work with this level—and yet feel sure that his adjustments once made will keep so indefinitely.

### SPECIFICATIONS

**Telescope:** 18 inches long,  $1\frac{3}{8}$ -inch objective, erecting image, line of collimation correct for all distances. Power 32 diameters. Lenses of finest Jena glass; free from chromatic or spherical aberration; unusual illumination, exceptionally clear cut and sharp definition of image over entire field. Protection to object slide. Entire instrument is black finished above the levelling screws, including telescope and level. Unless otherwise ordered the sensitiveness of spirit level will be 25 seconds to one division  $1/10$  inch. Instrument adjusted to the finest possible accuracy with sunshade in position and focussed on mean distance.

**General:** Bell metal center in socket of phosphor-bronze clamp and tangent screw; four levelling screws. Complete in mahogany case with strap and hooks, sunshade, screw driver, adjusting pin, etc. Weight of complete instrument is  $9\frac{1}{2}$  lbs. Weight of tripod split legs, 8 lbs.

| 73591  | EXTRAS                                                        | PRICE |
|--------|---------------------------------------------------------------|-------|
| Item 1 | Stadia wires, fixed.....                                      |       |
| Item 2 | Waterproof cover, for protection against rain and the weather |       |
| Item 3 | Bottle of superfine watch oil to lubricate the center.....    |       |

Instrument is provided with clamp and tangent screw.

*See Price List Inside Back Cover*

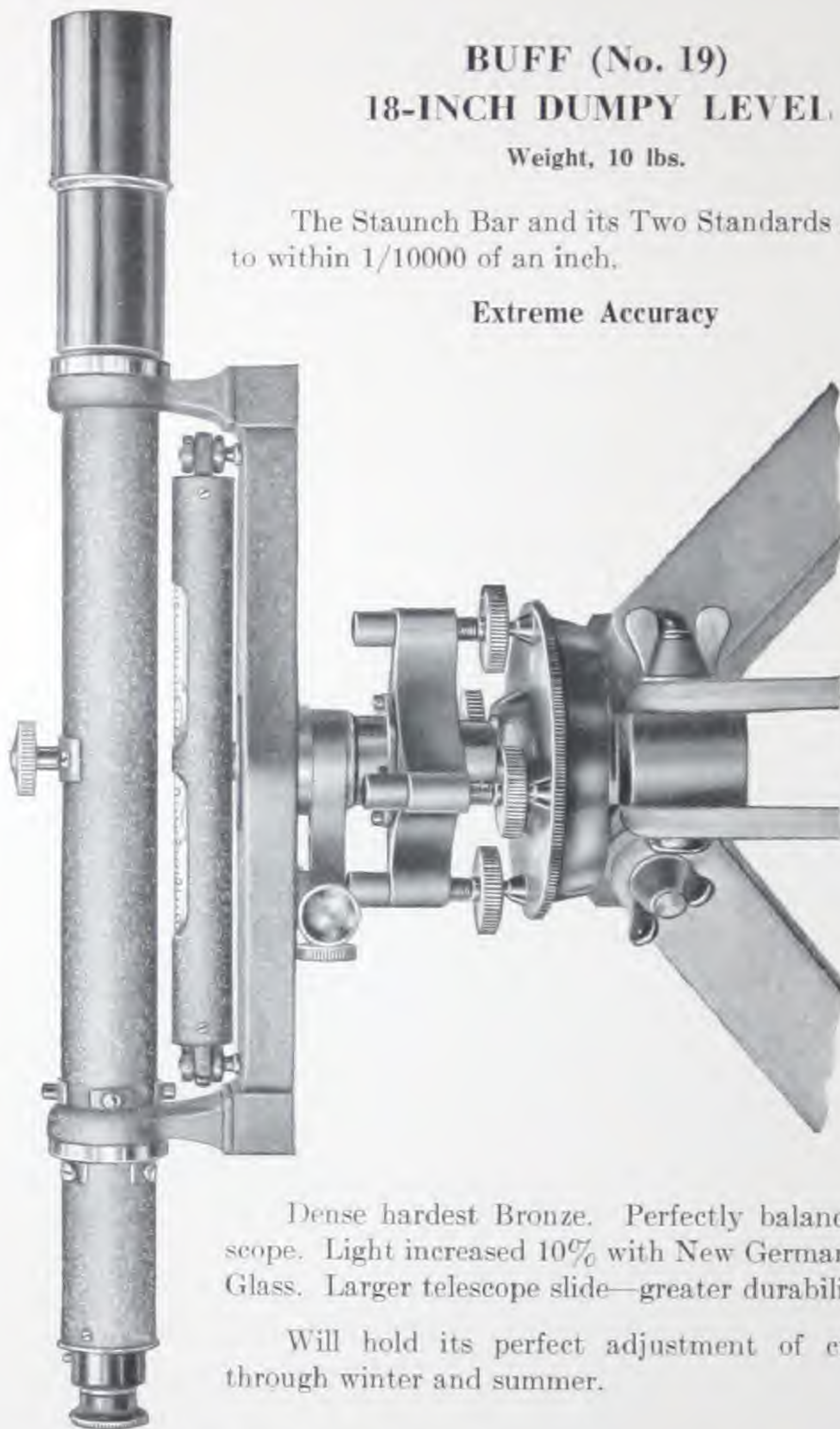


**BUFF (No. 19)  
18-INCH DUMPY LEVEL.**

Weight, 10 lbs.

The Staunch Bar and its Two Standards are fitted  
to within 1/10000 of an inch.

**Extreme Accuracy**



73601

**ENGINEER'S 18-IN. DUMPY LEVEL, (MODEL 19)**

Power of Telescope—32 Magnification

Master Level of Rugged Strength

Dense hardest Bronze. Perfectly balanced Telescope. Light increased 10% with New German Optical Glass. Larger telescope slide—greater durability.

Will hold its perfect adjustment of crosswires through winter and summer.

NOTE—Numbers shown in (—) are manufacturer's numbers

*See Price List Inside Back Cover*



BUFF  
TRIPODS



73611



73612

EACH

- 73611 Split-Leg Tripod. ....  
73612 Extension Tripod. ....

Split-leg tripods for our regular instruments, as recently designed, are of one piece, fine-grained white ash. The advantages of white ash are the straighter and closer grain and the better and more durable finish permissible.

The iron shoe provided on our regular tripods is of improved and superior design for field work.

The bell-metal head holding the three legs together at the top, is a single casting strengthened by curved and powerful ribs adding grace and increasing the rigidity.

The finish is of the most approved type, being three coats of hard shellac and waterproof varnish, which are each rubbed down and dressed in oil, thus procuring an almost indestructible, permanent finish.

Buff levels and transits all fit the Buff Tripod Thread,  $3\frac{1}{2}$ " x 12, giving four full turns, so instrument will not easily unscrew and fall off.

Transits and Levels repaired on short notice at lowest prices

See Price List Inside Back Cover



## READING GLASSES



These round readers are unsurpassed for optical properties, design and workmanship. The lenses are accurately ground of clear white ophthalmic glass. They are highly polished and cover a wide field. They are regularly furnished, as listed below, with chromium plated rim of sufficient width to protect the lens surfaces, and handles are of tapered, black plastic.

|            | DIAMETER SIZES | 2½"   | 3¼"   | 4"    | 5"    |
|------------|----------------|-------|-------|-------|-------|
| 73621..... | .....          | ..... | ..... | ..... | ..... |
|            | .....          | ..... | ..... | ..... | ..... |

## SEMI-ACHROMATIC READING GLASS

This highly corrected reader has two plano-convex lenses instead of a single double convex lens. This construction eliminates chromatic and spherical aberration to a substantial degree. Furnished with chromium plated rim and ferrule with tapered, black plastic handle.

73622 Reading Glass, 3 inch diameter.....EACH

## REDUCING GLASSES

Reducing Glasses are the same as Readers in construction, but are fitted with double concave lenses instead of double convex. Used by Artists and Engravers to reduce drawings, photographs, etc.

73623 Reducing Glass, 3 inch diameter.....EACH

## POCKET MAGNIFYING GLASSES



73624



73625

These small pocket magnifiers are made with single or double lenses in vulcanite mountings. All are extremely durable, light in weight and neat in appearance. The double lens style gives a choice of three magnifications.

|                        |       |       |       |
|------------------------|-------|-------|-------|
| 73624 Single Lens..... | 1"    | 1¼"   | 1½"   |
| Magnification.....     | 4x    | 3½x   | 3x    |
| Price.....             | ..... | ..... | ..... |
| 73625 Double Lens..... | ¾"    | 1"    | 1¼"   |
| Magnification.....     | 5x10x | 4x8x  | 3½x7x |
| Price.....             | ..... | ..... | ..... |

*See Price List Inside Back Cover*





## CODDINGTON MAGNIFIERS

Give a good definition and a wide field. They are made of a single lens of cylindrical shape with a deep groove cut in the center and blackened to act as a diaphragm. The ends of the cylindrical shaped glass are ground and polished to form lens surfaces.

EACH

- 73631 1½" focus, 7x. ....
- 73632 1" focus, 10x. ....
- 73633 ¾" focus, 14x. ....
- 73634 ½" focus, 20x. ....



73632

## SELF-ILLUMINATED MAGNIFIERS



Focus 2½"

Affords a wide field of view, having a "Doublet" lens two inches in diameter, 4-Power, nicely corrected for aberration or distortion.

Designed for reading maps, blueprints, nautical charts, or checking metals, castings or small machine parts.

EACH

- 73635 Illuminated Magnifier complete with battery and bulb. ....

## POCKET MAGNARULES



The Magnarule is a combination pocket rule and magnifier. The lens is mounted in a tapered crystal zylonite handle, one edge having a four-inch scale to 32nds, the other edge metric. The lens is 1¼ inch diameter, approximately 3-power and is optically correct.

EACH

- 73636 Magnarule 1¼ inch. ....

## POCKET MAGNIFIER WITH ATTACHED CASE



73637

The magnifying lens, two inches in diameter, with five-inch focus is made of clear opthalmic glass and is attached to a durable, soft leather case into which it swings, affording the lens adequate protection at all times.

- 73637 Magnifier in Case . . . . EACH

*See Price List Inside Back Cover*





## THERMOMETERS



73641

**73641 Utility Wall Thermometer.** Permacolor tube, magnifying lens, outdoor temperature range. Scale  $8\frac{1}{2} \times 2$ ", white vitreous enameled. Black figures and graduations fired in for permanence.

EACH.....



73642

**73642 Temprite Window Thermometer.** Permacolor tube, magnifying lens. Scale  $8\frac{1}{2} \times 2$ ", white vitreous enameled, octagonal design. Black figures and graduations fired in for permanence.

EACH.....



73643

**73643 Window Thermometer,** the most popular of this type. 10" Vitreous enamel scale, finished ivory with large scale black markings and numerals. Adjustable brass-plated brackets. Overall size  $11\frac{1}{4}$ " high,  $2\frac{1}{2}$ " wide.

EACH.....

**73644 Indoor Wall Thermometer.** Permacolor tube with magnifying lens. Satin finished brass scale with black figures and graduations. Finished in walnut, ivory or natural. 6" long.

EACH.....



73644

See Price List Inside Back Cover

73651

73652

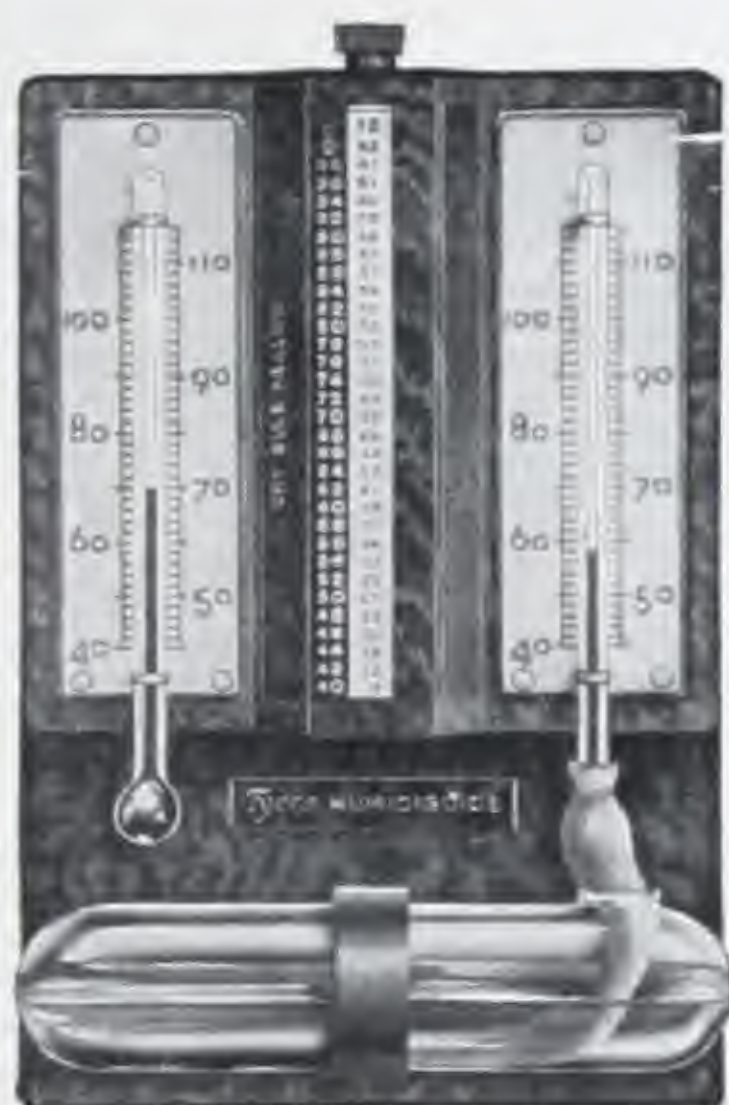
73653

73654





## THERMOMETERS—HYGROMETERS



- 3651 Asphalt Testing Thermometer. 11½ inches long, bullet-shaped end, armored steel chromeplated case. Ranges 200° F. and 200° to 600° F. . . . . EACH

- 3652 Maximum and Minimum Thermometer. Plastic case with individually graduated brass scales, magnifying lens tube reading approximately -20° or 40° to 120° F. Registers high and low temperature for any period. Complete with setting magnet. . . . . EACH

- 3653 Mason's Form Hygrometer for determining the relative and absolute humidity and dew point and for foretelling frosts. Complete with U. S. Weather Bureau tables and directions for determining humidity. Thermometer with indoor temperature range. Permacolor tubes with magnifying lens. Scales have burnished metal figures and graduations on a polished lacquer background. Mahogany finished bakelite. Complete with spare wicks and instructions. . . . . EACH

- 3654 Metal Case Thermometer for rugged outdoor use. 12" long, silver-plated scale. -50° to 120° F. Easy reading Permacolor tube. . . . .

See Price List Inside Back Cover



## THERMOMETERS



73661

73661 An attractive wall thermometer with humidity guide in a modern case of black bakelite and chromium. Silver finish dial and scale.  $7\frac{3}{4}$ " high,  $2\frac{3}{4}$ " wide, and  $1\frac{1}{8}$ " deep.....

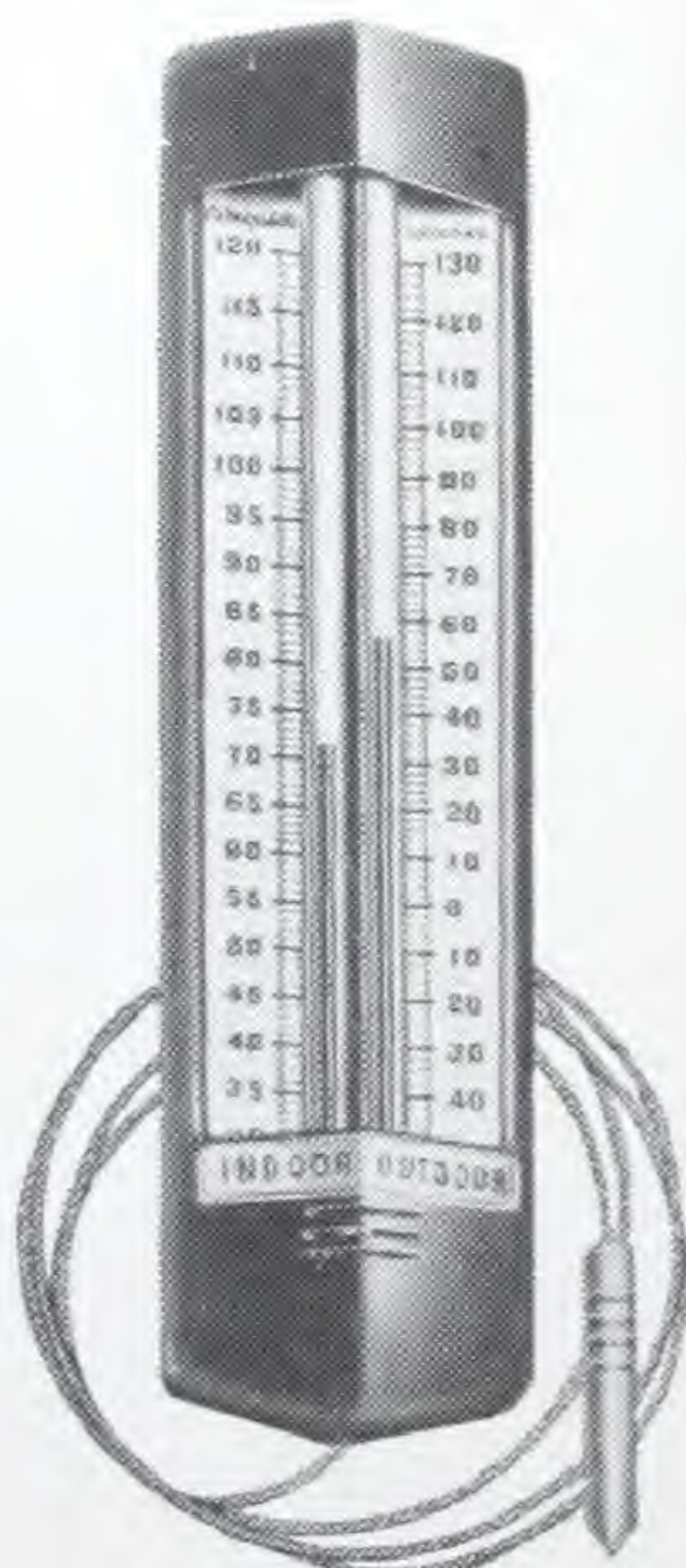
EACH



73662

73662 A handsome wall barometer of solid walnut. Dial and thermometer scale of rich, etched metal. Finest quality movement with altitude adjustment. Size 5" wide, 11" high,  $1\frac{7}{8}$ " deep.

EACH



73663

### INDOOR- OUTDOOR THERMOMETERS

This smartly styled twin-scale thermometer serves a double capacity. Located indoors it tells at a glance both indoor and outdoor temperatures. The "Indoor" half on the left is a regular bulb thermometer accurately calibrated and tested to register indoor temperature. The "Outdoor" half on the right tells the exact temperature out of doors by means of a sensitive metal capsule located just outside of window and connected to the tube by means of a flexible capillary tubing so fine it allows tight closing of window. "Outdoor" reading is equally as precise as the "Indoor." Ends necessity for peering through dark or frosty windows to read outdoor temperatures.

EACH

- 73663 Gunmetal gray bakelite case, chrome trim. Black and silver scales.  $9\frac{1}{2}$ " high,  $2\frac{1}{4}$ " wide. Packed in attractive box.
- 73664 Ivory bakelite case, gold trim. Black and gold scales.....

See Price List Inside Back Cover





## THERMOMETERS—BAROMETERS



73671

A Combination Instrument for office or home. The center dial forecasts the weather . . . the matching side dials indicate temperature and relative humidity. The barometer is an American-made movement of excellent quality. Numerals and calibrations are black on a satin silver background.

EACH

73671 "Argyle" Combination Instrument,  $5\frac{3}{4}$ " high,  $9\frac{1}{2}$ " wide,  $2\frac{3}{8}$ " deep. Black bakelite with chrome base and bezel.

### RECORDING THERMOMETER



73672

### CYCLO STORMOGRAPH



73673

EACH

73672 Recording Thermometer. Temperature range  $0^{\circ}$  to  $100^{\circ}$  F. Gives a continuous seven-day chart record of temperature, divided into days and two-hour divisions. Gray enameled metal case, with supply of charts for one year.

EACH

73673 Recording Barometer. Records barometric pressure on a continuous weekly chart. Unit diaphragm movement compensated for temperature. For altitudes 0 to 3500 ft. Glass-covered case, 12" long, 7" high, 8" deep.

See Price List Inside Back Cover





B. K. ELLIOTT COMPANY



## ELLIOTT'S BINOCULARS



"SCHENLEY"

|        | 73681         | 73682      |
|--------|---------------|------------|
|        | "PITTSBURGER" | "SCHENLEY" |
| Power  | 8 x 26        | 8 x 30     |
| Weight | 18 oz.        | 14 oz.     |
| EACH   |               |            |

Price includes leather case with shoulder and neck straps

## BAUSCH AND LOMB BINOCULARS

|        |        |        |        |
|--------|--------|--------|--------|
| Number | 73683  | 73684  | 73685  |
| Power  | 6 x 30 | 7 x 35 | 7 x 50 |
|        | oz.    | oz.    | oz.    |
| Weight | 19½    | 19½    | 42     |
| EACH   |        |        |        |

|        |        |        |
|--------|--------|--------|
| Number | 73686  | 73687  |
| Power  | 8 x 30 | 9 x 35 |
| Weight | 22 oz. | 26 oz. |
| EACH   |        |        |



See Price List Inside Back Cover





## FIELD GLASSES



73691 Field Glass, 5X, 40 mm. Achromatic Lens system. Leather-covered barrels made of cast magnesium alloy. Height when closed  $4\frac{3}{4}$ " weight 12 ounces. With brown leather case and straps. . . . . EACH

73692 Field Glass, 4X, 40 mm. Achromatic lenses that combine clarity and sharpness of image with a wide field of vision. Rigid, durable magnesium frame with barrels in black leather. Height when closed,  $3\frac{3}{4}$  inches. With leather case and straps. . . . . EACH



73693 Field Glass, 4X, 32 mm. Achromatic lenses, giving a wide field of vision and color-free illumination. Hinged bridge permits instant adjustment to user's eyes. Height when closed  $3\frac{1}{4}$  inches. With leather case and straps. . . . . EACH

*See Price List Inside Back Cover*



## SCIENTIFIC BOOKS

### ARCHITECTURAL—STRUCTURAL

- 73701** KIDDER-PARKER. *Architects' and Builders' Handbook*. 2315 pages, 4½ x 7¼ inches. Flexible Binding. Profusely illustrated. A handbook for Architects, Builders, Structural Engineers, Contractors and Draftsmen; valuable as a reference book for everything relating to the construction and equipment of buildings. By the late F. E. Kidder, C.E., Ph.D., rewritten by Harry Parker, M.S., and a staff of specialists. . . . . EACH

- 73702** RAMSEY-SLEEPER. *Architectural Graphic Standards*. 344 pages, 9¼ x 11½ inches. Cloth. . . . . EACH

This architectural "best seller" gives an easily and quickly found answer to the questions raised in solving the architect's daily problems. The data, standards and information are shown graphically, so that pictures tell the story. Bare facts, standards, methods without excess of detail or ornament, graphically give the information desired. It enables the draftsman, architect, engineer, etc., to save time and effort.

- 73703** PARKER. *Simplified Engineering for Architects and Builders*. 214 pages, 96 illustrations, 5 x 7¾ inches. Flexible binding. . . . . EACH

The important terms and basic principles employed in the design of structural members in building construction, and a host of examples with their solutions illustrating just the sort of problems that must be faced in practice.

- 73704** ROUILLION-RAMSEY. *Architectural Details*. 131 pages, 11 x 8 inches, 71 plates. Cloth. . . . . EACH

An excellent textbook for classroom use; also designed to meet a demand from architects, builders, and homemakers for definite and elementary information upon building construction details.

- 73705** KETCHUM. *Structural Engineer's Handbook*. Data for the Design and Construction of Steel Bridges and Buildings, presented in compact, easily accessible form. It is a source book and encyclopedia of useful information that has heretofore been accessible only to a few engineers. 1066 pages, 6 x 9 inches, 400 illustrations, 250 tables. . . . . EACH

- 73706** Above, Two-Volume edition, 6 x 9 inches. . . . . PER SET

- 73707** KETCHUM. *Design of Highway Bridges of Steel, Timber and Concrete*. 566 pages, 6 x 9 inches, 340 illustrations, 7 folding plates, 140 tables. . . . . EACH

- 73708** KETCHUM. *Design of Steel Mill Buildings*. 632 pages, 6 x 9 inches, 60 tables, 410 illustrations, 4 folding plates. . . . . EACH

See Price List Inside Back Cover





## SCIENTIFIC BOOKS

### ARCHITECTURAL—STRUCTURAL

(Continued)

- 73711 KETCHUM. *The Design of Walls, Bins and Grain Elevators.* 556 pages, 6 x 8½ inches, 304 illustrations, 45 tables, 2 folding plates. . . . . EACH

- 73712 KETCHUM. *The Design of Mine Structures.* 460 pages, 6 x 8½ inches, 265 illustrations, 65 tables, 7 folding plates. . . . . EACH

This book covers the design of head frames, coal tipples, coal washers, coal breakers, concentrators, mine buildings, bins, retaining walls, trestles, and other mine structures made of steel, timber, and reinforced concrete.

- 73713 KETCHUM. *Stresses in Framed Structures.* A Reprint of Part I of *Design of Steel Mill Buildings.* 217 pages, 6 x 9 inches, 103 illustrations. . . . . EACH

- 73714 A.I.S.C. *Steel Construction.* Manual of American Institute of Steel Construction, assembled for the distribution of data and information from which architects and engineers may prepare engineering plans conforming to the most advanced information available to the technical professions, and in conformity with the best industrial practices. 431 pages, 6 x 9¼ inches. Flexible binding. . . . . EACH

- 73715 BISHOP, CARLTON T. *Structural Drafting.* 287 pages, 121 illustrations, 6 x 9¼ inches. Cloth. . . . . EACH

Presents the basic principles of structural drafting, with particular emphasis on those phases of the subject which differ from engineering drawing. When the fundamentals have been established, further chapters discuss their application to drawings of some of the more common types of members, and the concluding chapters complete the picture of the scope of the draftsman's work.

- 73716 BISHOP, CARLTON T. *Structural Design.* 254 pages, 118 illustrations, 6 x 9¼ inches. Cloth. . . . . EACH

This book is planned for basic courses in the design of steel structures. The fundamental principles of design are first applied to detached individual members. Later these fundamentals are applied to the design of more complete structures, with due regard to the interdependence of the different members and to the design of the details.

See Price List Inside Back Cover





## SCIENTIFIC BOOKS

### ARCHITECTURAL—STRUCTURAL

(Continued)

TAYLOR-THOMPSON-SMULSKI. *Concrete Plain and Reinforced*. Known for many decades as the standard in its field, this famous work presents a comprehensive treatment of the many phases of the subject. In Two Volumes:

73721 Vol. I. *Theory and Design of Concrete and Reinforced Structures*. 969 pp., 6 x 9 $\frac{1}{4}$  inches, 311 figures, 42 tables, 25 diagrams. Cloth. . . . . EACH

73722 Vol. II. *Theory and Design of Continuous Beams, Frames, Building Frames and Arches*. 688 pp., 6 x 9 $\frac{1}{4}$  in., 224 figures, 31 diagrams. Cloth. . . . . EACH

73723 TAYLOR-THOMPSON-SMULSKI. *Reinforced-Concrete Bridges, Except Arches*. With Formulas Applicable to Structural Steel and Concrete. 456 pages, 187 illustrations. 6 x 9 $\frac{1}{4}$  inches. Cloth. . . . . EACH

Complete information for the logical design of bridges, other than arches, presenting the first comprehensive treatment of all types of bridges that have thus far been developed. . . . . EACH

73724 HOOL AND JOHNSON. *Concrete Engineers' Handbook*. A compact reference book containing tables, formulae and data on plain and reinforced concrete. 800 pp., 6 x 9 inches, flexible, fully illustrated. . . . . EACH

73725 HOOL AND KINNE. *Structural Members and Connections*. 639 pp., 6 x 9 inches, 388 illustrations, many tables and charts. . . . . EACH

A comprehensive treatment of the general theory pertaining to structural members, also their detailed design and the design of their connections with other members. Covers the design of steel and cast-iron members, splices and connections for steel members, design of wooden members and splices and connections, and design of reinforced concrete members, in a practical treatment including a number of worked-out illustrative problems.

73726 HOOL AND KINNE. *Foundations, Abutments, and Footings*. 417 pages, 6 x 9 inches, 178 illustrations. . . . . EACH

Covers fully the engineering of foundations of all types, footings and piers, land and underwater, describing each type of structure, its suitability for various purposes, factors of design, design methods, construction pointers, and other facts to aid the engineer and construction man in their work in this field. Made complete with sections on investigation of the soil and excavation, and even a chapter to help the engineer avoid legal pitfalls.

See Price List Inside Back Cover



## SCIENTIFIC BOOKS

### ARCHITECTURAL—STRUCTURAL

(Continued)

HOOB AND PULVER. *Reinforced Concrete Construction.*

Presents detailed principles, data, tests, and construction facts relating to the materials of reinforced concrete construction, and explains, with many examples, the design of all the simpler elements. A concise and authoritative treatment of the essentials, adapted for class or home study purposes.

**73731** Vol. I. *Fundamental Principles.* ..... EACH

**73732** Vol. II. *Retaining Walls and Buildings.* ..... EACH

**73733** Vol. III. *Bridges and Culverts.* ..... EACH

**73734** MERRIMAN-HANKIN. *Strength of Materials.* The entire book has been revised in the light of today's needs, and changes in content and arrangement have been made wherever necessary. Enough problems are included to give concrete application to the theory discussed. 148 pages, 71 illustrations,  $5\frac{3}{8} \times 8\frac{3}{4}$  inches. Cloth ..... EACH

**73735** TIMOSHENKO AND YOUNG. *Theory of Structures.* By establishing a close relationship between the teaching of mechanics and structures, this book helps the student to understand the various practical methods of analysis of trusses and frames. 488 pages,  $5\frac{3}{4} \times 8\frac{3}{4}$  inches, 477 illustrations. . . . EACH

**73736** URQUHART AND O'ROURKE. *Design of Steel Structures.* 448 pages, 6 x 9 inches, illustrations. . . . EACH

A clear, well-organized treatment of the design of steel structures. Beginning with an introductory chapter on the manufacturing and fabrication of steel, the book takes up the design of simple members and various representative structural forms, illustrating each stage of the work with finished designs and complete detailing.

*See Price List Inside Back Cover*





## SCIENTIFIC BOOKS

### CIVIL ENGINEERING

- 73741 ALLEN. *Railroad Curves and Earthwork; Field and Office Tables*. 538 pages, pocket size. . . . . EACH

The standard railroad field book. Widely used in colleges and among engineers; distinctive for: the fullness and completeness of the tables; the mathematical clearness and up-to-dateness of the text; the excellence of typography and other details of manufacture.

- 73742 ALLEN. *Railroad Curves and Earthwork*. 248 pages, 4 x 6 $\frac{3}{4}$  inches, illustrated. . . . . EACH

- 73743 ALLEN. *Field and Office Tables*. 290 pages, 4 x 6 $\frac{3}{4}$  inches, illustrated. EACH

BREED-HOSMER. *Principles and Practice of Surveying*.

In Two Volumes.

- 73744 Vol. I. *Elementary Surveying*. 717 pages, illustrated, 5 x 7 $\frac{5}{8}$  inches. Flexible binding. . . . . EACH

Gives the fundamentals of surveying for students beginning the study of this subject. Includes all the essentials necessary for a comprehensive knowledge of practical surveying.

- 73745 Vol. II. *Higher Surveying*. A comprehensive textbook on the more advanced phases of the subject. . . . . EACH

- 73746 BUTTS. *Civil Engineers' Field-Book*. 280 pages, 4 $\frac{1}{4}$  x 6 $\frac{3}{4}$  inches. Flexible binding. . . . . EACH

For many years a standard work in its field, this book contains a systematically arranged discussion of the details of planning railways, including such subjects as: reconnaissance, preliminary surveys, location, transition-curves, turnouts, frogs, switches, and actual construction.

- 73747 HODGMAN, F. *Manual of Land Surveying*. One of the best and most practical books on the subject of land surveying. Leather, with flap. . EACH

See Price List Inside Back Cover



**SCIENTIFIC BOOKS****CIVIL ENGINEERING (Continued)**

**73751** HODGMAN, F. *Surveyors' Tables*. Comprise the Tables taken from the "Manual of Land Surveying" by the same author. An exceptionally handy pocketbook. Best Morocco binding. . . . . EACH

**73752** HODGMAN, F. *Surveyors' Tables* as above, but with 32 blank pages for memoranda or additional items. Star Edition. . . . . EACH

MERRIMAN-WIGGIN. *American Civil Engineers' Handbook*. 2263 pages, 4 $\frac{1}{4}$  x 7 inches. Illustrated.

**73753** One Volume, Flexible binding. . . . . EACH

**73754** Two Volumes, Flexible binding. . . . . SET

The most complete and authoritative handbook of civil engineering, MERRIMAN has attained its high position through more than two decades of continuous and reliable service. The revised fifth edition was prepared under the editorship of THADDEUS MERRIMAN, son of the original editor, and THOMAS H. WIGGIN, well-known consulting engineer assisted by an exceptionally able group of contributors—all eminent engineers.

**73755** NAGLE. *Field Manual for Railroad Engineers*. 499 pages, 4 x 6 $\frac{3}{4}$  inches, 99 figures. Flexible binding. . . . . EACH

An excellent seller for many decades and still a useful collection of the tables essential to the locating engineer. Designed to save time and reduce error in mathematical field calculation, it includes tables of actual tangents, formulas applicable to railroad curves and the location of frogs, natural functions of angles, etc.

**73756** PENCE AND KETCHUM. *Surveying Manual*. 363 pages, pocket size, 48 illustrations. . . . . EACH

A standard text and field manual on the principles and practice of surveying. Describes clearly and thoroughly, use of instruments, methods of making surveys, and the keeping of accurate and serviceable field notes.

**73757** SEARLES. *The Railroad Spiral*. 127 pages, 4 x 6 $\frac{1}{2}$  inches, 15 figures. Flexible binding. . . . . EACH

*See Price List Inside Back Cover*



## SCIENTIFIC BOOKS

### CIVIL ENGINEERING (Continued)

SEARLES-IVES. *Field Engineering*. A handbook of the theory and practice of railway surveying, location and construction.

In Two Volumes:

73761 Vol. I. *Text*. 366 pages, 157 illustrations, 4 x 6 $\frac{3}{4}$  inches. Flexible binding. . . . . EACH

73762 Vol. II. *Tables*. 403 pages, 4 x 6 $\frac{3}{4}$  inches. Flexible binding. . . . . EACH

73763 *Text and Tables* in one volume. 769 pages, 4 x 6 $\frac{3}{4}$  inches. Flexible binding. . . . . EACH

73764 TRACY. *Plane Surveying*. 794 pages, 4 x 6 $\frac{3}{4}$  inches, 604 figures and 3 folding charts. Flexible binding. . . . . EACH

A textbook and pocket manual combined, treating with great thoroughness fundamental principles and methods.

73765 TRAUTWINE, J. C. *The Civil Engineers' Reference Book*. 1514 pages, 4 $\frac{1}{2}$  x 7 inches, fully illustrated. Fabrikoid. . . . . EACH

Formerly *The Civil Engineers' Pocketbook*. Mathematics, Mechanics, Strength of Materials, Hydrostatics, Hydraulics, Bridge and Roof Trusses, Railroads, Concrete (Plain and Reinforced), Conversion Tables of Units of Weight, Measure, etc.

73766 URQUHART, L. C. *Civil Engineering Handbook*. 877 pages, 6 x 9 inches, over 900 illustrations, tables and diagrams. . . . . EACH

A handbook in civil engineering that in point of view, comprehensiveness, organization and format should be especially valuable to both engineers in practice and students. Provides an unusually thorough treatment of the fundamental divisions of civil engineering.

73767 WATERBURY, L. A. *Handbook of Mathematics for Engineers*. 3 x 5 $\frac{1}{2}$  inches, 278 pages, 80 illustrations. Flexible Fabrikoid. . . . . EACH

A handy reference book for those who are studying the branches of mathematics usually taught in an engineering school. Latest edition, rewritten and enlarged.

*See Price List Inside Back Cover*



## SCIENTIFIC BOOKS

### HIGHWAY ENGINEERING

HARGER AND BONNEY. *Handbook for Highway Engineers.*

73771 One-volume Edition . . . . . EACH

73772 Vol. I—*Principles and Practice* . . . . . EACH

73773 Vol. II—*Field and Office Data* . . . . . EACH

73774 Two volumes, when bought together . . . . . SET

For highway engineers, highway inspectors and highway contractors. It covers thoroughly all the necessary reference data on rural highway design and construction, including general economics, location, grading, drainage and small span bridges, pavements and railroad grade crossing protection and eliminations. 1720 pages, 5½ x 7 inches, flexible binding, illustrated.

HEWES. *American Highway Practice.* An indispensable reference work for the highway engineer, the asphalt and cement technologist, the landscape engineer or architect, and the advanced student of civil or highway engineering.

In Two Volumes:

73775 Vol. I. Contents: Highway Location. Design of Roadway. Grading the Roadbed. Highway Landscape. Sand-Clay and Stabilized Roads. Macadam Roads. Gravel and Fine-Crushed Rock Roads. Intermediate Bituminous Surfacing. Appendices. Index. . . . . EACH

73776 Vol. II. Contents: Penetration Macadam. Sheet Asphalt. Asphaltic or Bituminous Concrete. Construction of Portland-Cement Concrete Roads. Design of Cement Concrete Pavement Mixtures. Design of Concrete Road Slabs, Brick Roads, Miscellaneous Structures. . . . . EACH

73777 HICKERSON. *Highway Surveying and Planning.* 422 pages, 5½ x 8 inches, 72 illustrations, 28 tables. . . . . EACH

A compact presentation of the problems of highway location, with special emphasis on curves and earthwork, including the banking and widening of pavements. The economic and aesthetic advantages of easement spirals are fully treated, and a variety of original tables is given to facilitate the layout of these curves.

See Price List Inside Back Cover



## SCIENTIFIC BOOKS

### HIGHWAY ENGINEERING (Continued)

- 73781** Ives. *Highway Curves*. 552 pages,  $4\frac{1}{8} \times 6\frac{3}{4}$  inches. Flexible binding. EACH

This book presents in an exceptionally clear and able manner the theory and practice of highway curves as followed in this country.

### SANITARY ENGINEERING—SEWER DESIGN

- 73782** EHLERS AND STEEL. *Municipal and Rural Sanitation*. 449 pages, 6 x 9 inches, 132 illustrations. . . . . EACH

A thorough treatment of municipal and rural sanitation that covers, in addition to residential sewage disposal and water supply, such matters as sanitation of swimming pools, the sanitation of milk and other foods, refuse collection and disposal, the control of mosquitoes, flies and rodents, plumbing inspection and housing, etc.

- 73783** METCALF AND EDDY. *Sewerage and Sewage Disposal—A Textbook*. 750 pages, 6 x 9 inches, 220 illustrations, 70 tables. . . . . EACH

A single-volume treatment written out of the authors' famous three-volume treatise, *American Sewerage Practice*. It presents that information which the authors consider it desirable for the student to acquire before taking up work in this field. It should be of particular service because it is based on actual practice—on the past experiences and current opinions of many practicing engineers.

### MINE ENGINEERING AND SURVEYING

- 73784** *Coal Miners' Pocketbook*. 1273 pages, pocket size, fully illustrated. . EACH

It is a complete digest of the best practice of the leading coal mining engineers of the world. It answers hundreds of troublesome questions—from prospecting to preparing coal for the market—from scientific fundamentals to mine safety methods.

- 73785** DURHAM *Mine Surveying*. 390 pages, pocket size, illustrated. . . . . EACH

*See Price List Inside Back Cover*



## SCIENTIFIC BOOKS

### MINE ENGINEERING AND SURVEYING (Continued)

- 73791** PEELE-CHURCH. *Mining Engineers' Handbook*. Bound in two volumes. 2442 pages,  $5\frac{5}{8} \times 8\frac{5}{8}$  inches. Fully illustrated. Flexible binding. . . . . SET

Prepared for engineers concerned with the development and management of mines, and also for those whose interest is in the construction details involved in the installation of plants. Covers mining and metallurgy, etc., and such data on machinery, power plant, electric transmission, and structural design as the engineer may need in the field.

- 73792** Above, College Edition. . . . . SET

### MECHANICAL ENGINEERING

- 73793** COLVIN AND STANLEY. *American Machinist' Handbook*. 1546 pages,  $4\frac{1}{2} \times 7$  inches, over 2500 illustrations and tables. . . . . EACH

A standard manual of data, methods and definitions for apprentices, machinists, toolmakers, draftsmen, designers, foremen, superintendents, and all others connected with shop and drafting room practice in the metal-working and allied industries.

- 73794** ESHBACH. *Handbook of Engineering Fundamentals*. 1081 pages, 576 illustrations,  $5\frac{5}{8} \times 8\frac{5}{8}$  inches, Flexible binding. . . . . EACH

Embodies information pertaining to the fundamental theory underlying engineering practice. It is essentially a treatment of the principles of mathematics, applied physics and chemistry, supplemented with mathematical and physical tables and a basic discussion of contractual relations. Offers a book of great usefulness to engineers of every type.

- 73795** Above, College Edition. . . . . EACH

- 73796** HALSEY. *Handbook for Machine Designers, Shop Men and Draftsmen*. Second Edition. 561 pages,  $8\frac{1}{2} \times 11$  inches, several hundred illustrations. . . . . EACH

This book contains a wealth of practical data of value to the shop man as well as the designer and draftsman. It gives the methods, data and basic facts which are of constant application in machine design but which have never before been collected into a single volume.

*See Price List Inside Back Cover*



## SCIENTIFIC BOOKS

### MECHANICAL ENGINEERING (Continued)

- 73801** *Machinery's Handbook*. Latest edition.  $4\frac{3}{4} \times 7\frac{1}{8}$  inches, 1911 pages, illustrated. Flexible binding. . . . . **EACH**

A reference book on Machine Design and Shop practice for the mechanical engineer, draftsman, tool maker and machinist. Includes recent or revised engineering standards, together with a large amount of general information and mechanical data representing the latest designing and manufacturing practice.

- 73802** AMISS AND JONES. *The Use of Handbook Tables and Formulas*. . . . . 210 pages,  $4\frac{3}{4} \times 7\frac{1}{8}$  inches, 63 illustrations. Cloth. . . . . **EACH**

Based upon *Machinery's Handbook*. A guide to the efficient application of the Tables, Formulas, and general data in *Machinery's Handbook*, designed especially for engineering and trade schools, apprenticeship and home-study courses, to insure the most effective use of the handbook and a thorough knowledge of its contents.

- KENT. *Mechanical Engineers' Handbook*. Now in two independent, inclusive volumes, divided according to a logical arrangement of subject matter. All formulae, tables, data, and practice described have been compiled from the most reliable sources, thoroughly verified and carefully checked.

In Two Volumes:

- 73803** *Power*. 1252 pages. Illustrated.  $5\frac{5}{8} \times 8\frac{5}{8}$  inches. Flexible binding. **EACH**

Deals with the entire field of Power and its applications that are of interest to the mechanical engineer.

- 73804** *Design-Shop Practice*. 1378 pages,  $5\frac{5}{8} \times 8\frac{5}{8}$  inches. Illustrated. Flexible binding. . . . . **EACH**

Covers in detail present-day methods in Design and Shop Practice.

- 73805** MARKS, L. S. *Mechanical Engineers' Handbook*. Latest edition.  $4\frac{1}{2} \times 7$  inches, 2276 pages, over 1700 illustrations and 800 tables. Flexible binding. . . . . **EACH**

A comprehensive reference work for mechanical engineers. 15 main sections, each the product of one or more well-known specialist.

- 73806** TRAUTSCHOLD. *Standard Gear Book*. Working Formulas and Tables In Gear Design by REGINALD TRAUTSCHOLD. 314 pages, 6 x 9 inches, 140 illustrations (1935). . . . . **EACH**

See Price List Inside Back Cover



## SCIENTIFIC BOOKS

### ELECTRICAL ENGINEERING

**PENDER, HAROLD.** *Electrical Engineers' Handbook.* Holds a mirror to the entire field of electrical engineering, and reflects it in condensed form, with the authority of an imposing array of specialists. In two volumes:

**73811** *Electric Power.* 1300 pages, 709 illustrations,  $5\frac{5}{8} \times 8\frac{5}{8}$  inches. Flexible binding..... **EACH**

This volume has been consolidated into nineteen sections, each dealing with a general topic. Air-Conditioning, Industrial Applications of Motors, and other new topics have been included. Power Transmission and Distribution receives a large amount of space, since it was found that this subject is one which former editions were most frequently consulted.

**73812** *Electric Communications and Electronics.* 1022 pages, 981 illustrations,  $5\frac{5}{8} \times 8\frac{5}{8}$  inches. Flexible binding..... **EACH**

Covers the whole field of communication as a unit; it includes telegraphy, telephony, radio broadcasting, etc. First section contains complete mathematical tables, logarithms, trigonometric, exponential and hyperbolic functions, decibels, etc. The section dealing with electron tubes, exhaustive tables are given.

**73813** **KNOWLTON, ARCHER E.** *Standard Handbook for Electrical Engineers.* 2303 pages, 6 x 9 inches, 1700 Illustrations, 600 tables, thumb-indexed. **EACH**

The great standard reference work of all in the electrical engineering profession or whose work in industry or engineering touches on this field. Presents a handy reference compilation of practical, usable data from all fields of electrical engineering practice, plus the most frequently required fundamental theory, units, and systems of measurement, made dependable by the work of more than 100 engineers, scientists, teachers, and other authorities.

### DRAWING—LETTERING

**73814** **FRENCH.** *Engineering Drawing* 622 pages,  $6\frac{1}{8} \times 9\frac{1}{4}$  inches, 1062 illustrations..... **EACH**

The present edition of this preeminently successful text has been designed to keep the book abreast of the latest advances in engineering and pedagogy and to assure the continuance of its role as a vitalizing and progressive influence in technical education.

**73815** **FRENCH AND SVENSEN.** *Mechanical Drawing.* 300 pages, 6 x 9 inches, illustrated..... **EACH**

This standard high school text presents mechanical drawing as a definite educational subject with the following objectives: To develop the power of visualization; to strengthen the constructive imagination; to train in exactness of thought; to teach how to read and write the language of the industries; to give modern commercial practice in making working drawings.

**73816** **REINHARDT, C. W.** *Lettering for Draftsmen, Engineers and Students.*

A practical system of freehand lettering for working drawings. Latest edition, revised and enlarged.  $7\frac{3}{4} \times 11$  inches, 36 pages, 54 illustrations, 15 full-page plates..... **EACH**

*See Price List Inside Back Cover*



## SCIENTIFIC BOOKS

### MATHEMATICAL TABLES

- 73821** BENSON. *Natural Trigonometric Functions*. 181 pages,  $6\frac{1}{4} \times 9\frac{1}{2}$  inches. Cloth ..... EACH

Containing the Natural Sine, Cosine, Tangent and Cotangent to Seven Decimal Places for Every Ten Seconds of Arc from  $0^\circ$  to  $90^\circ$  Semi-Quadrantly Arranged. Conveniently arranged: the sines and cosines for the first half of the degree are listed on the left hand page and the tangents and cotangents on the right hand page directly opposite, eliminating the possibility of taking a sine for a tangent, or vice versa, while still retaining the advantage of finding corresponding sines and tangents without turning the page.

- 73822** CHAMBERS. *Mathematical Tables*. New edition  $5\frac{3}{8} \times 8$  inches, 496 pages. Cloth ..... EACH

Consisting of Logarithms of numbers 1 to 108,000, Trigonometrical, Natural and other tables.

- 73823** GURDEN, R. L. *Traverse Tables*. Latest edition.  $9\frac{1}{2} \times 14$  inches, 270 pages ..... EACH

Computed to four-place decimals for every single minute of angle up to 100 of distance. For the use of surveyors and engineers.

- 73824** VEGA, V. *Logarithmic Tables of Numbers and Trigonometrical Functions*. Latest edition, revised and enlarged.  $6 \times 9$  inches, 603 pages. Cloth ..... EACH

Contains common logarithms from 1 to 100,000 to seven figures; logarithmic sines and tangents from 0 degrees to 90 degrees by seconds to seven figures; conversion and refraction tables; etc.

- 73825** BRUHNS. *7-Place Log Tables*. Latest Edition.  $6\frac{1}{2} \times 9\frac{3}{4}$  inches. 634 pages. Cloth ..... EACH

A new manual of Logarithms to 7 Places of decimals.

- 73826** IVES. *Seven Place Natural Trigonometrical Functions*. 222 pages,  $4\frac{1}{2} \times 6$  inches. Flexible binding ..... EACH

This set of tables together with the appendices contains a great deal of material to which the engineer will want to refer in his daily work.

- 73827** IVES. *Natural Trigonometric Functions to Seven Decimal Places for Every Ten Seconds of Arc*. 368 pages,  $6\frac{3}{4} \times 9\frac{3}{4}$  inches. Cloth ..... EACH

The content is divided into two parts. In this edition, Part I has been expanded to include an entirely new table on the tangents and cotangents of  $0^\circ$  to  $2^\circ 0'$ , to single seconds. In addition, there is a table of sines, cosines, tangents and cotangents. Part II offers a variety of miscellaneous tables, information and examples especially adapted to subdivision work.

*See Price List Inside Back Cover*



## SCIENTIFIC BOOKS

### MATHEMATICAL TABLES (Continued)

**73831** INSKIP'S *Combined Tables*. Combining *Table of Gradients* and *Tables of Squares and Logarithms*, plus other useful tables.....EACH

**73832** REDDICK-MILLER. *Advanced Mathematics for Engineers*. 508 pages,  $5\frac{5}{8} \times 8\frac{5}{8}$  inches. Cloth.....EACH

Throughout this book emphasis has been placed on physical applications by presenting, with each principal topic, problems relating to the main fields of engineering. Particular care has been taken to present definitions, statements of physical laws, theorems, problems, and the physical units employed, in a thorough and clearcut manner.

**73833** SMOLEY. *Parallel Tables of Logarithms and Squares* in combination with a complete set of Logarithmic-Trigonometric Tables and Charts giving at a glance the solution of a right triangle when given by any two sides. Total issue 100,000 copies. For over 40 years the standard of the drafting room. In the Tenth Edition the logs. and squares are extended to 200 feet. Flexible cover and lining, round corners, gilt edges.  $7 \times 4\frac{3}{4}$  inches, 572 pages.....EACH

**73834** SMOLEY. *Five-Decimal Logarithmic Trigonometric Tables*, including logarithm of numbers to 10,000 with Tables of Proportional Parts and Tables of the Six Natural Trigonometric Functions; also many other useful tables. Cloth, Bond paper,  $7 \times 4\frac{3}{4}$  inches, 192 pages.....EACH

**73835** SMOLEY. *Parallel Tables of Slopes and Rises* giving ready solutions of right triangles for a given bevel (rise per foot run). It contains also charts giving at a glance solutions of right triangles when given by 2 sides or by one side and the bevel. Flexible cover and lining, round corners and gilt edges;  $7 \times 4\frac{3}{4}$  inches, 348 pages.....EACH

**73836** SMOLEY'S *Combined Tables*. Contains the above described 3 volumes under one cover (THREE IN ONE). Flexible cover and lining, round corners, gilt edges, and a complete THUMB INDEX.....EACH

**73837** SMOLEY *Segmental Functions, Text and Tables*. Offers simple methods of handling problems involving circular work—particularly calculations of parts of a circular segment, such as arcs, chords, etc., and of areas of circular segments. Flexible cover and lining, round corners, gilt edges,  $7 \times 4\frac{3}{4}$  inches, 430 pages.....EACH

**73838** SMOLEY'S *New Combined Tables*. Comprises all the 4 Smoley Time Savers including Segmental Functions in one volume (FOUR IN ONE). Flexible cover and lining, round corners, gilt edges, with a complete THUMB INDEX.....EACH

See Price List Inside Back Cover







# INDEX



江

[illegible]E  
E  
E  
E  
E  
E  
E



## INDEX

### A

|                                       | PAGE          |
|---------------------------------------|---------------|
| A and B Brown Erasing Fluid .....     | 43            |
| Abney Levels .....                    | 314           |
| Adhesives .....                       | 254 to 256    |
| Adhesive Tape .....                   | 223, 224      |
| Adjustable Curve Rulers .....         | 146           |
| AER-NU Portable Unit .....            | 45            |
| AER-NU Liquid .....                   | 45            |
| Alidades, Gurley .....                | 329           |
| Alteneder Scales .....                | 162 to 165    |
| Altimeters .....                      | 311, 312      |
| Alton Drawing Paper .....             | 10            |
| Amber Protractors .....               | 126           |
| Amber Triangles .....                 | 139, 141, 144 |
| Ames Lettering Instrument .....       | 140           |
| Ammonia .....                         | 45            |
| Anemometers .....                     | 308           |
| Aneroid Barometers .....              | 310           |
| Angles, Lettering .....               | 140           |
| Architects' Boxwood Scales .....      | 151 to 155    |
| Architects' Certificate Books .....   | 74            |
| Architects' Rods .....                | 299, 300      |
| Architects' Standard Documents .....  | 74            |
| Architects' Transits .....            | 317, 318      |
| Architects' White Edge Scales .....   | 156 to 161    |
| Arc Lamp Carbons .....                | 40, 41        |
| Arkwright Tracing Cloth .....         | 13            |
| Arm Protractors .....                 | 129           |
| Arrows .....                          | 297           |
| Art Gum .....                         | 245           |
| Artists' Brushes .....                | 261, 262      |
| Artists' Pencils .....                | 227 to 229    |
| Artists' Water Color Sets .....       | 260           |
| Atomizers .....                       | 257           |
| Attachments for Gurley Levels .....   | 332           |
| Attachments for Gurley Transits ..... | 332           |
| Attachments for Plumb Bobs .....      | 280           |
| Attachments, Parallel Ruling .....    | 173           |
| Automatic Marking Pens .....          | 249           |
| Autopoint Pencils .....               | 233           |
| Auto-Shift Drawing Tables .....       | 193, 194      |
| Avonmore Paper .....                  | 11            |
| Axes, Engineers' .....                | 298           |
| Axes, Engineers' Belt .....           | 298           |

### B

|                               |             |
|-------------------------------|-------------|
| Bands, Rubber .....           | 246         |
| Barometers, Aneroid .....     | 310         |
| Barometers, Recording .....   | 367         |
| Beam Compass Bars, Wood ..... | 89          |
| Beam Compasses .....          | 88, 89, 106 |
| Belt Axe, Engineers' .....    | 298         |
| Bichromate (Potash) .....     | 44          |

### PAGE

|                                          |                              |
|------------------------------------------|------------------------------|
| Binders' (Duplicating Field Books) ..... | 78                           |
| Binders (for graph sheets) .....         | 63                           |
| Binoculars .....                         | 368, 369                     |
| Black Line Developer .....               | 32                           |
| Black Line Paper and Cloth .....         | 32                           |
| Blocks, Watercolor .....                 | 6                            |
| Bluco Solvent .....                      | 44                           |
| Blue Print Lamp Globes .....             | 42                           |
| Blue Print Lamps .....                   | 41                           |
| Blue Print Papers .....                  | 25, 26                       |
| Blue Print Typewriter Ribbons .....      | 44                           |
| Blue Set .....                           | 44                           |
| Boards, Drawing .....                    | 180, 181                     |
| Boards, Illustrating .....               | 7                            |
| Boards, Waterecolor .....                | 7                            |
| Bobs, Plumb .....                        | 295                          |
| Books, Cross Section .....               | 80, 81                       |
| Books, Field .....                       | 75 to 81                     |
| Books, Level .....                       | 75 to 81                     |
| Books, Scientific .....                  | 370 to 383                   |
| Books, Transit .....                     | 75 to 81                     |
| Bostitch Tacker .....                    | 217                          |
| Bow Dividers, Pens and Pencils .....     | 84 to 87, 95 to 97, 101, 102 |
| Bristol Board .....                      | 8                            |
| Bristol Board, Patent Office .....       | 8                            |
| Bristol Board Protractors .....          | 131                          |
| Brown Erasing Fluid, Ellico .....        | 43                           |
| Brown Print Paper and Cloth .....        | 27, 28                       |
| Brunton Pocket Transits .....            | 315                          |
| Brushes, Camels' Hair .....              | 262                          |
| Brushes, Dust .....                      | 174                          |
| Brushes, Red Sable .....                 | 261                          |
| Brushes, Water Color .....               | 261, 262                     |
| Brush, Lamp Globes .....                 | 41                           |
| Buff Drawing Papers .....                | 9, 10                        |
| Buff Transits .....                      | 335 to 360                   |
| Builders' Level .....                    | 316                          |
| Bush Hooks .....                         | 298                          |
| Bush Knives .....                        | 298                          |

### C

|                                    |            |
|------------------------------------|------------|
| Cabinets, Filing, Steel .....      | 201 to 214 |
| Cabinets, Filing, Wood .....       | 198 to 200 |
| Cable, Ruling Attachment .....     | 174        |
| Calculators .....                  | 151 to 155 |
| Camel Hair Brushes .....           | 262        |
| Camera Lucida .....                | 112        |
| Capitol Tracing Paper .....        | 19         |
| Carbon Pliers .....                | 41         |
| Carbons, Blue Print Machines ..... | 41         |
| Celluloid Angles .....             | 140, 141   |
| Celluloid Sheets .....             | 138        |
| Cement, Rubber .....               | 256        |





## INDEX—Continued

|                                                | PAGE                 |                                                 | PAGE                            |
|------------------------------------------------|----------------------|-------------------------------------------------|---------------------------------|
| Centers, Horn .....                            | 220                  | Dispenser (Scotch Tapes) .....                  | 224                             |
| Certificate Books, Architects' .....           | 74                   | Dividers .....                                  | 87, 102                         |
| Chain Tapes .....                              | 286 to 288, 291      | Dividers, Bow .....                             | 84 to 87, 95 to 97, 101, 102    |
| Challenge Junior Tapes .....                   | 273                  | Dotting Instruments .....                       | 146                             |
| Challenge Tapes .....                          | 273                  | Drafting Machines, Drafto .....                 | 124, 125                        |
| Charcoal Paper .....                           | 6                    | Drafting Machines, Elliott Vemco .....          | 113 to 116                      |
| Chicago Chain Tapes .....                      | 290                  | Drafting Machines, Emmert .....                 | 123                             |
| Chinaware .....                                | 257                  | Drafting Machines, Universal .....              | 117 to 120                      |
| Cleaner, Tracing Cloth .....                   | 17                   | Drafting Tape, Scotch .....                     | 223                             |
| Cleaner, Wrico Pen .....                       | 135                  | Drafto Portable Drawing Machines .....          | 124, 125                        |
| Clips, Paper .....                             | 221                  | Draftsmen's Boxwood and White Edge Scales ..... | 151 to 165                      |
| Cloth, Blue Print .....                        | 26                   | Draftsmen's Lamp .....                          | 175                             |
| Cloth, Brown Print .....                       | 27, 28               | Draftsmen's Stools, Steel .....                 | 176, 177                        |
| Cloth, D T Reproduction Tracing .....          | 33, 34               | Draftsmen's Stools, Wood .....                  | 176                             |
| Cloth, Dry Mounting .....                      | 50                   | Drawing Boards .....                            | 180, 181                        |
| Cloth, Lin-O-Blu Direct Printing .....         | 29B                  | Drawing Board Paste .....                       | 254                             |
| Cloth, Oil (for covering drawing boards) ..... | 197                  | Drawing Boards, Strathmore .....                | 8                               |
| Cloth, Pencil .....                            | 14                   | Drawing Compasses .....                         | 87 to 89, 94                    |
| Cloth, Posi-Blae Direct Printing .....         | 32                   | Drawing Ink .....                               | 251                             |
| Cloth, Tracing .....                           | 13, 14               | Drawing Instruments .....                       | 84 to 107                       |
| Clothes Pins .....                             | 42                   | Drawing Instruments in Sets .....               | 90 to 92, 98 to 100, 103 to 105 |
| Colors, Water .....                            | 258 to 260           | Drawing Instruments, Loose .....                | 82 to 87, 93 to 97, 101, 102    |
| Colors, Winsor & Newton .....                  | 258, 259             | Drawing Kits .....                              | 178                             |
| Compasses, Beam .....                          | 88, 89, 106          | Drawing Paper .....                             | 6 to 12                         |
| Compasses, Drawing .....                       | 87 to 89, 94         | Drawing Tables .....                            | 184 to 194                      |
| Compasses, Magnetic .....                      | 309                  | Drawing Tables, Auto-Shift .....                | 193, 194                        |
| Compasses, Tripod .....                        | 315                  | Drawing Table, 4 Post .....                     | 184 to 192                      |
| Contact Printers .....                         | 52, 53               | Drawing Tables, Steelwood .....                 | 189 to 192                      |
| Contour Pens .....                             | 83, 97               | Drop Pens .....                                 | 86, 97, 102                     |
| Contract Documents, Architects' .....          | 74                   | Dry Mounting Cloth .....                        | 50                              |
| Coordinate Paper .....                         | 68                   | Dry Mounting Paper .....                        | 50                              |
| Copying Pencils .....                          | 226                  | Duplicate Tracing Cloth, D T .....              | 33, 34                          |
| Counters, Speed .....                          | 306                  | Duplicating Field Books .....                   | 78                              |
| Cover, Paper .....                             | 10                   | Duplicating Field Book Binders .....            | 78                              |
| Covers, Dust .....                             | 197                  | Dust Brushes .....                              | 174                             |
| Crayon Holders .....                           | 238                  | Dust Covers .....                               | 197                             |
| Crayon, Lumber .....                           | 238                  |                                                 |                                 |
| Crayon, Pencils .....                          | 235 to 237, 239, 240 | E                                               |                                 |
| Crescent Steel Pocket Tapes .....              | 278                  | Economy Blue Print Paper .....                  | 26                              |
| Cross Section Books .....                      | 80, 81               | Edging Machines, Scotch .....                   | 223                             |
| Cross Section Pads .....                       | 73, 74               | Edges, Straight .....                           | 169 to 172                      |
| Cross Section Paper and Cloth .....            | 57 to 74             | Eldorado Drawing Pencils .....                  | 225, 229                        |
| Cursors (for Slide Rules) .....                | 112B                 | Elleo Erasing Fluid .....                       | 43                              |
| Curve Pens .....                               | 83                   | Elleo Tracing Cloth .....                       | 13                              |
| Curve Rulers, Adjustable .....                 | 146                  | Elleo Tracing Paper .....                       | 21                              |
| Curves, Irregular .....                        | 147, 149             | Elliott Bond Tracing Paper .....                | 18                              |
| Curves, Logarithmic .....                      | 149                  | Ellipses .....                                  | 144                             |
| Curves, Mechanical Engineer's .....            | 149                  | Engineers' Axes .....                           | 298                             |
| Curves, Railroad .....                         | 150                  | Engineers' Belt Axes .....                      | 298                             |
| Curves, Ship .....                             | 148                  | Engineers' Bush Hooks .....                     | 298                             |
| Cushions, Stool and Chair .....                | 178                  | Engineers' Bush Knives .....                    | 298                             |
| Cutters, Paper .....                           | 51                   | Engineers' Crayons .....                        | 238                             |
|                                                |                      | Engineers' Field Accessories .....              | 298                             |
| D                                              |                      | Engineers' Field Books .....                    | 75 to 81                        |
| Detail Paper .....                             | 9 to 12              | Engineers' Mattock Maul .....                   | 298                             |
| Detail Pens .....                              | 82                   | Engineers' Pattern Tapes .....                  | 267, 269, 271                   |
| Developer, Black Line .....                    | 32                   | Engineers' Scales .....                         | 121, 122                        |
| Developer, Foto-Draft .....                    | 55                   |                                                 |                                 |
| Developer, Potash .....                        | 44                   |                                                 |                                 |
| Dispenser (Roll Paper) .....                   | 48                   |                                                 |                                 |



## INDEX—Continued

|                                      | PAGE       |
|--------------------------------------|------------|
| Engineers' Steel Tapes .....         | 267, 275   |
| Equipment, Pease Whiteprinting ..... | 35 to 39   |
| Engineers' Transits and Levels ..... | 316 to 360 |
| Eradicator Ink, Erazol .....         | 17         |
| Erasers .....                        | 242 to 246 |
| Eraser Tips .....                    | 234        |
| Erasers, Art Gum .....               | 245        |
| Erasers, Electric .....              | 242        |
| Erasers, Fiberglass .....            | 244        |
| Erasers, Steel .....                 | 219        |
| Erasing Fluid, Ellico .....          | 43         |
| Erasing Shields .....                | 222        |
| Extension Rules .....                | 276, 277   |
| Eyelet Press .....                   | 222        |
| Eye Shades .....                     | 220        |

### F

|                                |            |
|--------------------------------|------------|
| Facila Protractor Angle .....  | 130        |
| Fasteners, Paper .....         | 221        |
| Federal Aid Sheets .....       | 71, 72     |
| Federal Tracing Paper .....    | 19         |
| Field Books .....              | 74 to 81   |
| Field Books, Duplicating ..... | 78         |
| Field Books, Loose Leaf .....  | 75         |
| Field Glasses .....            | 369        |
| Filing Cabinets, Steel .....   | 201 to 214 |
| Filing Cabinets, Wood .....    | 198 to 200 |
| Fixatif .....                  | 257        |
| Fixer, Foto-Draft .....        | 55         |
| Flexible Level Rods .....      | 304        |
| Fluid, Ellico Erasing .....    | 43         |
| Fluid, Writing .....           | 251        |
| Folding Rules .....            | 276, 277   |
| Fotowelder .....               | 50         |
| Fulton Blue Print Paper .....  | 25         |

### G

|                                         |            |
|-----------------------------------------|------------|
| Gillott Pen Holders .....               | 247        |
| Gillott Pens .....                      | 247        |
| Gits Knives .....                       | 219        |
| Glasses, Field .....                    | 369        |
| Glasses, Magnifying .....               | 362, 363   |
| Glasses, Reading .....                  | 362, 363   |
| Globe Brushes, Blue Print Machine ..... | 41         |
| Globes, Blue Print Machine .....        | 42         |
| Glue, LePage's .....                    | 255        |
| Glue, Vegetable .....                   | 255        |
| Graph Sheets .....                      | 64 to 70   |
| Green Detail Paper .....                | 10         |
| Grips, Tape .....                       | 280        |
| Gurley Alidades .....                   | 329        |
| Gurley Levels .....                     | 333, 334   |
| Gurley Plane Tables .....               | 330        |
| Gurley Transits .....                   | 319 to 328 |
| Gurley Tripods .....                    | 328        |

### H

|                                 |            |
|---------------------------------|------------|
| Hamilton Drawing Tables .....   | 184 to 194 |
| Hamilton Filing Cabinets .....  | 198 to 214 |
| Hand Levels .....               | 313, 314   |
| Hardwood Rulers .....           | 166        |
| Higgins' Drawing Ink .....      | 251        |
| Higgins' Paste .....            | 254, 255   |
| Hi-Way Drag Tapes .....         | 284, 285   |
| Hoffman Stands .....            | 183        |
| Holders, Ink .....              | 253        |
| Holders, Pen .....              | 247, 250   |
| Holders, Tape .....             | 280        |
| Hooks, Bush .....               | 298        |
| Horn Centers .....              | 220        |
| Horses for Drawing Boards ..... | 182        |
| Hygrometers .....               | 365        |

### I

|                                   |            |
|-----------------------------------|------------|
| Illustrating Board .....          | 7          |
| Imperial Drawing Blocks .....     | 6          |
| Imperial Tracing Cloth .....      | 13, 14     |
| Imperial Water Color Blocks ..... | 6          |
| Imperial Water Color Paper .....  | 6          |
| Inclined Drawing Boards .....     | 180, 181   |
| Ink Bottle Holders .....          | 252, 253   |
| Ink Bottles, Empty .....          | 252        |
| Ink, Drawing .....                | 251        |
| Ink, Eradicator .....             | 17         |
| Ink Erasers .....                 | 242 to 245 |
| Ink, Higgins' .....               | 251        |
| Ink, Speed Ball Lettering .....   | 248        |
| Ink Stands .....                  | 252, 253   |
| Ink Stoppers .....                | 252        |
| Ink, Tracing Cloth .....          | 16         |
| Ink, Writing .....                | 251        |
| Instruments, Dotting .....        | 146        |
| Instruments, Drawing .....        | 84 to 107  |
| Instruments, Surveying .....      | 315 to 360 |
| Irregular Curves .....            | 147, 149   |
| Isometric Paper .....             | 61         |

### K

|                                  |     |
|----------------------------------|-----|
| Kleenzit .....                   | 246 |
| Knives, Artist Palette .....     | 257 |
| Knives, Bush .....               | 298 |
| Knives, Gits .....               | 219 |
| Koh-I-Noor Drawing Pencils ..... | 225 |

### L

|                                         |                        |
|-----------------------------------------|------------------------|
| Lamp, Draftsmen's Adjustable .....      | 175                    |
| Lamp Globes, Blue Print, Machines ..... | 42                     |
| Lead Pencils .....                      | 225 to 233, 235 to 240 |
| Lead Pencil Pointers .....              | 219                    |
| Leads for Automatic Pencils .....       | 234                    |
| Lengtheners, Pencil .....               | 234                    |
| Lenox Drawing Paper .....               | 12                     |
| Le Page's Glue .....                    | 255                    |





## INDEX—Continued

|                                                 | PAGE       |
|-------------------------------------------------|------------|
| Lesh Protractor.....                            | 131        |
| Lettering Angles.....                           | 140        |
| Lettering Devices.....                          | 140        |
| Lettering Guides, Wrico.....                    | 132 to 137 |
| Lettering Pens.....                             | 135, 137   |
| Level Books.....                                | 75 to 81   |
| Levels, Hand.....                               | 313, 314   |
| Leveling Altimeter, Paulin.....                 | 311, 312   |
| Level Rods.....                                 | 299 to 304 |
| Levels, Buff.....                               | 355 to 360 |
| Level, Builders'.....                           | 316        |
| Levels, Gurley.....                             | 333, 334   |
| Level, Line and Surface.....                    | 296        |
| Levels, Transit.....                            | 317, 318   |
| Library Paste.....                              | 255        |
| Lifters, Tack.....                              | 218        |
| Line and Surface Levels.....                    | 296        |
| Linen Tapes, Sterling.....                      | 283        |
| Liners, Section.....                            | 145        |
| LIN-O Corrector.....                            | 45         |
| LIN-O Direct Printing Papers.....               | 29 to 31   |
| Locke Hand Levels.....                          | 314        |
| Logarithmic Curves.....                         | 149        |
| Logarithmic Paper.....                          | 69, 70     |
| Loose Leaf Binders, Duplicating Field Book..... | 78         |
| Loose Leaf Binders (Graph Sheets).....          | 63         |
| Loose Leaf Field Books.....                     | 75         |
| Lucas Chain Tapes.....                          | 291        |
| Lufkin Chain Tapes.....                         | 286 to 289 |
| Lufkin Metallic Tapes.....                      | 282        |
| Lumber Crayon Holders.....                      | 238        |
| Lumber Crayons.....                             | 238        |
| Luxor Illustration Board.....                   | 7          |

### M

|                                    |            |
|------------------------------------|------------|
| Machetes.....                      | 298        |
| Machines, Drafto.....              | 124, 125   |
| Machines, Pease Whiteprinting..... | 35 to 39   |
| Machines, Tallying.....            | 306        |
| Machines, Universal Drafting.....  | 117 to 120 |
| Magnarules (Pocket).....           | 363        |
| Magnetic Compasses.....            | 309        |
| Magnifying Glasses.....            | 362, 363   |
| Mailing Tubes.....                 | 48         |
| Map Measures.....                  | 166        |
| Marking Pens.....                  | 249        |
| Marking Pins, Arrows.....          | 297        |
| Mattock Maul, Engineers'.....      | 298        |
| Measuring Steel Tapes.....         | 263 to 275 |
| Mechanical Engineers' Curves.....  | 149        |
| Mending Tape.....                  | 223, 224   |
| Mercury Plumb Bobs.....            | 295        |
| Metallic Scales, Triangular.....   | 121        |
| Metallic Tapes.....                | 282        |
| Metal Pantographs.....             | 111, 112   |
| Metal Parallel Rules.....          | 145        |
| Metal Protractors.....             | 127 to 131 |
| Metal Tubes.....                   | 48         |
| Millimeter Paper.....              | 59         |
| Mine Spads.....                    | 297        |

|                                   |       |
|-----------------------------------|-------|
| Monarch Vellum Tracing Paper..... | 22    |
| Mounted Papers.....               | 6, 12 |
| Lenox.....                        | 12    |
| Whatman.....                      | 6     |
| Mucilage, Higgins'.....           | 254   |

### N

|                              |     |
|------------------------------|-----|
| National Tracing Paper.....  | 19  |
| Negative Paper.....          | 27  |
| Neutralizer (AER-NU).....    | 45  |
| Norma Pencil (4 Colors)..... | 231 |

### O

|                                   |     |
|-----------------------------------|-----|
| Office Paste.....                 | 254 |
| Office Pins.....                  | 221 |
| Ohio Drawing Paper.....           | 11  |
| Oil Cloth.....                    | 197 |
| Oil Gauges Plumb Bobs.....        | 280 |
| Oil Stones.....                   | 221 |
| Oil, Transit.....                 | 294 |
| Onion Skin Tracing Paper.....     | 20  |
| Orchid Detail Paper.....          | 9   |
| Othello Medium Tracing Paper..... | 20  |
| Oxford Bristol Board.....         | 8   |

### P

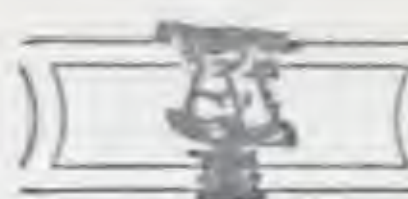
|                                  |          |
|----------------------------------|----------|
| Pads, Cross Section.....         | 73, 74   |
| Pads, Sketching.....             | 8        |
| Pads, Tracing Paper.....         | 7        |
| Pantographs.....                 | 111, 112 |
| Paper Clips.....                 | 221      |
| Paper Cutters.....               | 51       |
| Paper Fasteners.....             | 221, 222 |
| Paper Punches.....               | 222      |
| Papers:                          |          |
| Alton.....                       | 10       |
| Avonmore.....                    | 11       |
| Blue Print.....                  | 24 to 26 |
| Brown Print.....                 | 27, 28   |
| Charcoal.....                    | 6        |
| Cross Section.....               | 57 to 74 |
| Cover.....                       | 10       |
| Detail.....                      | 9 to 12  |
| Drawing.....                     | 6 to 12  |
| Dry Mounting.....                | 50       |
| Economy.....                     | 26       |
| Foto-Draft.....                  | 54       |
| Fulton.....                      | 25       |
| Green.....                       | 10       |
| Isometric.....                   | 61       |
| Lenox.....                       | 12       |
| LIN-O Black Direct Printing..... | 29, 31   |
| LIN-O Blu Direct Printing.....   | 29, 30   |
| LIN-O Red Direct Printing.....   | 29, 31   |
| LIN-O-VEL Sepia Line.....        | 29B      |
| Logarithmic.....                 | 69, 70   |
| Millimeter.....                  | 59       |



## INDEX—Continued

| PAGE                                        | PAGE                                                 |
|---------------------------------------------|------------------------------------------------------|
| Mounted.....6, 12                           | Pens, Railroad.....83                                |
| Ohio.....11                                 | Pens, Rivet.....82, 86                               |
| Orchid.....9                                | Pens, Round Writing.....249                          |
| Pattern 3X.....10                           | Pens, Ruling.....82, 83, 90, 97, 102                 |
| Plan Profile and Cross Section.....57 to 74 | Pens, Shading.....249                                |
| Posi-Blac Direct Positive.....32            | Pens, Speedball, Lettering.....248                   |
| Profile.....57 to 74                        | Pens, Wrico.....135, 137                             |
| Shamrock.....9                              | Pens, Writing.....249                                |
| Strathmore.....6                            | Photocopy Prints.....47                              |
| Superb.....25                               | Photo-Litho Prints.....47                            |
| Tracing.....7, 18 to 22                     | Pins, Clothes.....42                                 |
| Victory.....10                              | Pins, Marking.....297                                |
| Water Color.....6                           | Pins, Office.....221                                 |
| Whatman.....6                               | Pitch, Angles.....141                                |
| Paper Weights.....220                       | Plane Tables.....330, 331                            |
| Parallel Rules.....145                      | Plane Tables, Gurley.....330                         |
| Parallel Ruling Attachments.....173         | Planimeters.....108 to 110                           |
| Paste, Blue Print Machines.....44           | Pliers, Carbon.....41                                |
| Paste, Drawing.....254                      | Plumb Bobs.....295                                   |
| Paste, Office.....254                       | Plumb Bob Attachments.....297                        |
| Patch Welder.....49                         | Plumb Bob Line.....296                               |
| Patent Office Bristol Board.....8           | Plumb Bob Scabbards.....296                          |
| Pattern Paper.....10                        | Plumb Bob Targets.....296                            |
| Paulin System Altimeters.....311, 312       | Pocket Compasses.....309                             |
| Pease Whiteprinting Equipment.....35 to 39  | Pocket Magnarules.....363                            |
| Pedometers.....309                          | Pocket Magnifiers.....363                            |
| Pencil Cutters.....241                      | Pocket Scales.....159                                |
| Pencil Erasers.....242 to 246               | Pocket Slide Rules.....112A                          |
| Pencil Files.....218                        | Pocket Tapes.....275                                 |
| Pencil Lengtheners.....234                  | Pocket Thermometers.....284                          |
| Pencil Pointers.....219                     | Pocket Transit (Brunton).....315                     |
| Pencil Point Protectors.....234             | Points, Pricker.....83                               |
| Pencils.....225 to 233, 235 to 242          | Portable Drawing Machine, Drafto.....124, 125        |
| Alteneder Draftsman's.....227               | Posi-Blac Direct Printing Cloth.....32               |
| Automatic.....227 to 229                    | Posi-Blac Direct Printing Paper.....32               |
| Autopoint.....233                           | Potash, Bichromate.....44                            |
| Bow.....84, 85, 95, 96                      | Pounce.....17                                        |
| Castell Artist's.....228                    | Press, Eyelet.....222                                |
| Castell Drawing.....225                     | Press, Staple.....217                                |
| Copying.....226                             | Printed Tracing Cloth and Paper Sheets.....15, 16    |
| Crayon.....235 to 237, 239, 240             | Printers, Contact Type.....52, 53                    |
| Eldorado Drawing.....225, 229               | Printing Equipment, Pease Whiteprinting.....35 to 39 |
| Electric Drawing.....226                    | Prints.....46, 47                                    |
| Koh-I-Noor Artist's.....229                 | Black Line.....46                                    |
| Koh-I-Noor Drawing.....225                  | Blue.....46                                          |
| Norma (Four Colors).....231                 | Blue Line.....46                                     |
| Ticonderoga Writing.....226                 | Brown.....46                                         |
| Venus Drawing.....226, 229                  | Brown Line.....46                                    |
| Pencil Sharpeners.....241                   | D T Reproduced Cloth Tracing.....47                  |
| Pencil Tracing Cloth.....14                 | FOTO-DRAFT.....47                                    |
| Pen Cleaner, Wrico.....135                  | Giant Photo Copy.....47                              |
| Pen Holders.....247, 250                    | LIN-O.....46                                         |
| Pen Holders, Gillotts'.....247              | Photocopy, Negative.....47                           |
| Pens, Bow.....84 to 86, 95 to 97, 101, 102  | Photocopy, Positive.....47                           |
| Pens, Contour.....83, 97                    | Photo Litho.....47                                   |
| Pens, Curve.....83                          | Profile Papers and Cloths.....57 to 74               |
| Pens, Detail.....82                         | Proportional Dividers.....107                        |
| Pens, Drop.....86, 97, 102                  | Protect-O-Line.....17                                |
| Pens, Gillott.....247                       | Protect-O-Print.....42                               |
| Pens, Lettering.....135, 137, 247           | Protractors.....126 to 131                           |
| Pens, Marking.....249                       | Protractors, Bristol Board.....131                   |





## INDEX—Continued

|                                            | PAGE                |                                     | PAGE                            |
|--------------------------------------------|---------------------|-------------------------------------|---------------------------------|
| Protractors, Celluloid                     | 126, 130            | Scales, Metallic                    | 121                             |
| Protractors, Celluloid Triangle            | 126, 130            | Scales, Pocket                      | 159                             |
| Protractors, Metal                         | 126 to 131          | Scientific Books                    | 370 to 383                      |
| Protractors, Paper                         | 131                 | Scotch Edging Machines              | 223                             |
| Protractors, Scale                         | 126                 | Scotch Tape                         | 223, 224                        |
| Prudence Tracing Cloth                     | 13                  | Scotch Tape Dispensers              | 224                             |
| <b>Q</b>                                   |                     | Scribes, Timber                     | 298                             |
| Quick-Stick Paste                          | 44                  | "Seal-Brown" Print Paper and Cloth  | 28                              |
| <b>R</b>                                   |                     | Seat Cushion                        | 178                             |
| Railroad Curves                            | 150                 | Sectional Level Rods                | 302                             |
| Railroad Pens                              | 83                  | Section Liners                      | 145                             |
| Ranging Poles                              | 305                 | Sepia-Line Corrector                | 45                              |
| Rapid Blue Print Papers                    | 24 to 26            | Sets, Drawing Instrument            | 90 to 92, 98 to 100, 103 to 105 |
| Reading Glasses                            | 362, 363            | Shades, Eye                         | 220                             |
| Recording Barometers                       | 367                 | Shading Pens                        | 249                             |
| Recording Thermometers                     | 367                 | Sharpeners, Pencil                  | 241                             |
| Record Sheets                              | 62                  | Shears, Trimming                    | 51                              |
| Red Erasing Fluid, Ellico                  | 43                  | Sheet Celluloid                     | 138                             |
| Red Sable Brushes                          | 261, 262            | Sheets, Printed Tracing             | 15, 16                          |
| Reels, Tape                                | 289                 | Shields, Erasing                    | 222                             |
| Reliable Jr., Steel Tapes                  | 272                 | Ship Curves                         | 148                             |
| Reproduction Dept.                         | 46, 47              | Sight Poles                         | 305                             |
| Reproduction Tracing Cloth, D T            | 33, 34              | Sketch Blocks                       | 6                               |
| Reynolds Bristol Board                     | 8                   | Sketch Pads                         | 8                               |
| Reynolds Patent Office Board               | 8                   | Slabs, Water Color                  | 257                             |
| Ribbons, Typewriter, Blue Print            | 44                  | Slide Rule Cursors                  | 112B                            |
| Rivet Pens                                 | 82, 83              | Slide Rules                         | 112A, 112B                      |
| Rod Levels                                 | 299 to 304          | Smart Drawing Kits                  | 178                             |
| Rod Ribbons                                | 304                 | Solution, Transparentizing "Ellico" | 17                              |
| Rods, Architect                            | 299                 | Spads, Mine                         | 297                             |
| Rods, Level                                | 299 to 304          | Speedball Lettering Pens            | 248                             |
| Rods, Sectional                            | 302                 | Speed Counters                      | 306                             |
| Roll Paper Dispenser                       | 48                  | Spirit Levels                       | 340                             |
| Rolling Parallel Rules                     | 145                 | Splices, Tape                       | 294                             |
| Roof Pitches                               | 141                 | Squares, Tee                        | 167 to 170                      |
| Rubber Bands                               | 246                 | Stadia Diaphragms                   | 340                             |
| Rubber Cement                              | 256                 | Stadia Hand Levels                  | 313                             |
| Rubber Cement Dispenser                    | 256                 | Stadia Rods                         | 300 to 303                      |
| Rubber Pencil Tips                         | 234                 | Stainless Steel Tapes               | 273 to 291                      |
| Rulers, Adjustable Curve                   | 146                 | Stake Tacks                         | 297                             |
| Rulers, Hardwood                           | 166                 | Standard Architectural Documents    | 74                              |
| Rules, Extension                           | 276, 277            | Standard Medium Tracing Paper       | 20                              |
| Rules, Folding                             | 276, 277            | Stands, Ink                         | 252, 253                        |
| Rules, Parallel                            | 145                 | Stapling Machines                   | 217                             |
| Rules, Slide                               | 112A, 112B          | Steel Erasers                       | 219                             |
| Rules, Transparent Flexible                | 166                 | Steel Filing Cabinets               | 201 to 214                      |
| Ruling Attachment Cable                    | 174                 | Steel-wood Drawing Tables           | 184 to 192                      |
| Ruling Pens                                | 82, 83, 90, 97, 102 | Stencils                            | 141 to 144                      |
| <b>S</b>                                   |                     | Stones, Oil                         | 221                             |
| Scabbards, Plumb Bobs                      | 296                 | Stools, Draftsmen's Steel           | 176, 177                        |
| Scale Guards                               | 161                 | Stoppers and Quills                 | 252                             |
| Scale Protractor                           | 126                 | Stop Watches                        | 307                             |
| Scale-Underwriters                         | 159                 | Straight Edges                      | 169 to 172                      |
| Scales, Alteneder                          | 162 to 164          | Strathmore Charcoal Papers          | 6                               |
| Scales, Draftsmen's Boxwood and White Edge | 151 to 165          | Strathmore Drawing Board            | 8                               |
| Scales, Drafting Machine                   | 121, 122            | Strathmore Patent Office Board      | 8                               |
|                                            |                     | Superb Blue Print Paper             | 25                              |
|                                            |                     | Superfine Drawing Paper             | 6 to 12                         |
|                                            |                     | Surveying Aneroids                  | 310                             |
|                                            |                     | Surveying Instruments               | 315 to 360                      |



## INDEX—Continued

### T

|                                        | PAGE          |
|----------------------------------------|---------------|
| Table Bases .....                      | 182, 183      |
| Table Covers .....                     | 197           |
| Tables, Drawing Hamilton .....         | 184 to 194    |
| Champion .....                         | 182           |
| Ideal .....                            | 184           |
| Monarch .....                          | 184           |
| Shadowless Tracing .....               | 195, 196      |
| Tablets, Visualizing .....             | 8             |
| Tackers .....                          | 217           |
| Tack Lifters .....                     | 218           |
| Tacks, Stake .....                     | 297           |
| Tacks, Thumb .....                     | 216, 218      |
| Tallying Machines .....                | 306           |
| Tape Fingers .....                     | 281           |
| Tape Graduations .....                 | 284           |
| Tape Grips .....                       | 280           |
| Tape Hooks .....                       | 280           |
| Tape Reels .....                       | 289           |
| Tape Repair Outfits .....              | 292, 293      |
| Tape Rings .....                       | 281           |
| Tape, Scotch .....                     | 223, 224      |
| Tape Splices .....                     | 294           |
| Tape Tension Handles .....             | 280           |
| Tapes .....                            | 263, 275      |
| Tapes, Chain .....                     | 287, 288, 291 |
| Tapes, Hi-Way Drag .....               | 284, 285      |
| Tapes, Metallic .....                  | 282           |
| Tapes, Mine .....                      | 290           |
| Tapes, Pocket .....                    | 275           |
| Tapes, Stainless Steel .....           | 273 to 291    |
| Tapes, Wolverine .....                 | 271           |
| Tapes, Woven .....                     | 283           |
| Targets for Level Rods .....           | 302           |
| Targets for Plumb Bobs .....           | 296           |
| Tee Squares .....                      | 167 to 169    |
| Temperature Scale .....                | 284           |
| Tension Handles .....                  | 280           |
| Teutonia Tracing Paper .....           | 18            |
| Thermium Film .....                    | 49            |
| Thermometers .....                     | 364 to 367    |
| Thermometers, Pocket .....             | 284           |
| Thermometers, Recording .....          | 367           |
| Theodolite Triangulation .....         | 354           |
| Thumb Tacks .....                      | 216, 218      |
| Timber Scribes .....                   | 298           |
| Tin Tubes .....                        | 48            |
| Tracing Cloth .....                    | 56 to 59      |
| Tracing Cloth Cleaner .....            | 17            |
| Tracing Cloth, D T, Reproduction ..... | 33, 34        |
| Tracing Cloth Ink .....                | 16            |
| Tracing Cloth Pounce .....             | 17            |
| Tracing Folder .....                   | 204, 208      |
| Tracing Paper .....                    | 6, 18 to 22   |
| Tracing Paper Sheets .....             | 18 to 22      |
| Tracing Sheets, Printed .....          | 15, 16        |
| Transit Books .....                    | 75 to 81      |
| Transit Levels .....                   | 317, 318      |
| Transits, Brunton Pocket .....         | 315           |
| Transits, Buff .....                   | 335 to 360    |
| Transits, Gurley .....                 | 319 to 328    |

### PAGE

|                                          |          |
|------------------------------------------|----------|
| Transparentizing Solution, "Elleo" ..... | 17       |
| Trestles for Drawing Boards .....        | 182, 183 |
| Triangles .....                          | 130, 139 |
| Triangular Celluloid Protractors .....   | 130, 139 |
| Triangulation Theodolite .....           | 354      |
| Trimming Shears .....                    | 51       |
| Tripods for Transits and Levels .....    | 328, 361 |
| Tri-Pro Scale Protractor .....           | 130      |
| Tubes, Carboard (Metal Ends) .....       | 48       |
| Tubes, Tin .....                         | 48       |
| Typewriter Ribbons, Blue Print .....     | 44       |

### U

|                                      |            |
|--------------------------------------|------------|
| Underwriters Scale .....             | 159        |
| Unglazed Natural Tracing Paper ..... | 18         |
| Universal Camera Lucida .....        | 112        |
| Universal Drafting Machines .....    | 117 to 120 |
| Universal Steel Tapes .....          | 274        |
| University Illustration Board .....  | 7          |

### V

|                                 |          |
|---------------------------------|----------|
| Vanishing Patch .....           | 49       |
| Vanishing Patch Kit .....       | 49       |
| Vanishing Patch Refills .....   | 49       |
| Vegetable Glue .....            | 255      |
| Vellum Tracing Paper .....      | 22       |
| Vertical Plan File, Steel ..... | 213, 214 |
| Victor Blue Print Cloth .....   | 26       |
| Victory Detail Paper .....      | 10       |
| Visualizing Tablets .....       | 8        |

### W

|                                      |            |
|--------------------------------------|------------|
| Wade Automatic Curve .....           | 176        |
| Watches, Stop .....                  | 307        |
| Water Color Blocks .....             | 6          |
| Water Color Board .....              | 7          |
| Water Color Brushes .....            | 261, 262   |
| Water Color Paper .....              | 6          |
| Water Colors .....                   | 258 to 260 |
| Water Color Sets .....               | 260        |
| Water Color Slabs .....              | 257        |
| Waterproof Drawing Ink .....         | 251        |
| Wedge Erasers .....                  | 242 to 246 |
| Weights, Paper .....                 | 220        |
| Whatman's Papers .....               | 6          |
| Whatman's Water Color Board .....    | 7          |
| White Drawing Paper .....            | 11, 12     |
| White Erasing Fluid, Elleo .....     | 43         |
| Whiteprinting Equipment .....        | 35 to 39   |
| Winsor & Newton's Water Colors ..... | 258, 259   |
| Wolverine Steel Tape .....           | 271        |
| Wooden Bars for Beam Compasses ..... | 89         |
| Wooden Pantographs .....             | 111, 112   |
| Wood Filing Cabinets .....           | 198 to 200 |
| Wrico Lettering Guides .....         | 132 to 137 |
| Writing Ink .....                    | 251        |
| Writing Pens .....                   | 249        |

### Y

|                                   |    |
|-----------------------------------|----|
| Yellow Erasing Fluid, Elleo ..... | 43 |
|-----------------------------------|----|

















**PRICE LIST**  
**FOR**

**B.K. ELLIOTT CO**

DRAWING